

WIFI

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WELCOME TO BAMBERG

The 15th IFIP TC.13 International Conference on Human-Computer Interaction, INTERACT 2015, is held from 14 to 18 September 2015 in Bamberg, Germany, organized by the University of Bamberg. The city of Bamberg is proud of its more than 1000-year-old centre. It has more than 2,400 historically listed buildings and became a UNESCO World Cultural Heritage Site in 1993. With 70000 inhabitants, Bamberg is a small town in the heart of Europe.

The theme of the 2015 edition is "Connection. Tradition. Innovation". In its relatively short history, the Human-Computer Interaction area has experienced impressive development. Theories, methodologies, procedures, guidelines, and tools have been progressively proposed, discussed, tested, and frequently adopted by academia and the industry. The protagonists of this development created in a short period of time a sort of scientific and technological tradition able to produce high quality interaction systems. Anyhow, the evolution of the computers and networks pose new challenges to all the stakeholders. Innovation, based on tradition, is the only way to face these challenges, even if innovation often requires breaking the tradition. In order to make this process possible, INTERACT 2015 provides diverse and abundant connection opportunities.

Multidisciplinary approach is characteristic of the Human-Computer Interaction field. INTERACT 2015 aimed to connect all the matters able to contribute to the quality of the future interactions among people and computers.

The series of INTERACT international conferences (started in 1984) is supported by the Technical Committee 13 on Human–Computer Interaction of the International Federation for Information Processing (IFIP). This committee aims at developing the science and technology of the interaction between humans and computing devices.

IFIP was created in 1960 under the auspices of UNESCO with the aim of balancing worldwide the development of Computer Technology and Science. The Technical Committee 13 is fully conscious of the social importance of the Information and Communication Technologies for our world, today and in the future. For this reason, INTERACT 2015 has made efforts to attract and host people from the entire planet, and to pay attention to the constraints imposed to the human-computer interaction by differences in culture, language, technological availability, physical, sensory and cognitive differences, among other dimensions of interest.



FOREWORD

INTERACT 2015 gathers a stimulating collection of research papers, reports of development and practice that acknowledge diverse disciplines, abilities, cultures, and societies, and that address all the aspects of HCI, including technical, human, social and aesthetical.

Like its predecessors INTERACT 2015 aims to be an exciting forum for communication with people of similar interests, to foster collaboration and learning. Being by nature a multidisciplinary field, HCI requires interaction and discussion among diverse people with different interest and background. INTERACT 2015 was directed both to the academic and industrial world, always highlighting the latest developments in the discipline of HCI and its current applications. Experienced HCI researchers and professionals, as well as newcomers to the HCI field, interested in design or evaluation of interactive software, development of new technologies for interaction, research on general theories of HCI productively are meeting in Bamberg.

We thank all the authors who chose INTERACT 2015 as the venue to publish their research. This was again an outstanding year for the conference in terms of submissions in all the technical categories.

In total, we received 651 submissions. Of these, the following were accepted:

- 93 full research papers
- 74 short research papers
- 8 demos
- 30 interactive posters
- · 4 organisational overviews
- · 2 panels
- 6 tutorials
- 11 workshops
- · 13 doctoral consortium

The acceptance rate for the full papers was 29.6 %, and 26.8 % for short papers.

In order to select the highest quality contributions an elaborate review system was organized including shepherding of 38 full research papers that went through a second and sometimes a third round of review. That process was primarily handled by the 32 meta-reviewers who willingly assisted and ensured the selection of high quality full research papers that will be presented at INTERACT 2015.

The final decision on acceptance or rejection of papers was taken in a plenary Programme Committee meeting held in Tampere (Finland) in February 2015, aimed to discuss a consistent set of criteria to deal with inevitable differences among the large number of reviewers who were recruited and supported by the meta-reviewers. There participated the Technical Programme Chairs and the Track Chairs, the general chairs as well as members of IFIP Technical Committee 13.

Special thanks must go to the track chairs and all the reviewers, who put in an enormous amount of work to ensure that quality criteria were maintained along all the selection process. We also want to acknowledge the excellent work of the co-chairs of the different sections of the conference and the meta-reviewers of the full research paper track.

We also thank the members of the Organizing Committee, especially Mirko Fetter, Local Organisation Chair, who provides us with all the needed resources to facilitate our work. Finally, we wish to express a special thank you to the Proceedings Publication Chair, Marco Winckler, who did extraordinary work to put this volume together.

September 2015

Tom Gross Julio Abascal INTERACT 2015 Conference Co-Chairs

Simone Barbosa Philippe Palanque INTERACT 2015 Full Paper Co-Chairs The city of Bamberg is home of one of Europeans largest fully preserved historic old town centres. The medieval castle, the baroque monastery, the Romanesque cathedral with the famous Bamberg Horseman statue, the old bridge town hall built in the middle of the Regnitz river and surrounded by medieval and renaissance buildings, have been the scenery for many films including the 2011 Hollywood blockbuster movie Three Musketeers. The UNESCO World Cultural Heritage city is built on seven hills (like Rome), with the older inner city nestled on an island in the middle of the river Regnitz. Together this forms Germany's largest UNESCO World Cultural Heritage site third largest in Europe.



Bamberg is a safe, clean, and green city where everything lies in walking distance (there is a good network of public transport, esp. busses, if needed). September in Bamberg has mild temperatures (an average of 15 C / 59 F) and stable weather conditions (the month with the least number of rain days per year).



Bamberg and its picturesque surrounding region the Franconian Switzerland have the world largest brewery density according to the Guinness Book of World Records. In this region of culinary delights hundreds of small breweries, beer gardens, and restaurants welcome guests with friendliness to enjoy the multifarious specialities of the region. With a variety of small museums such as the Diocesan Museum with Germanys greatest collection of medieval church vestments, the Bamberg Symphony Orchestra an orchestra of world fame for their Mahler interpretations, and the German basketball champion Brose Baskets, Bamberg offers diverse possibilities for a cultural program.



Bamberg is in the heart of the Nuremberg Metropolitan Region with numerous sights from the Germanic National Museum to the Bayreuth Richard-Wagner Festival Opera house, which can be easily reached by public transport.

GENERAL INFORMATION FOR ATTENDEES

CONFERENCE VENUES

Welcome Centre Bamberg

The main conference venue is the Welcome Centre Bamberg in the **Welcome Kongresshotel**, located only a 10-minute stroll away from the UNESCO World Cultural Heritage old town.

Welcome Kongresshotel

Mußstr. 7 96047 Bamberg

GPS

Latitude: 49° 53′ 51.324″ N Longitude: 10° 52′ 37.667″ E



ERBA Building

Tutorials and workshops and any other event prior to the main technical program take place at University of Bamberg's new ERBA Building. The ERBA Building is located on the northern part of the city island and a 10-minute walk from the Welcome Centre. It is surrounded by a beautiful park—the area of the Bavarian gardening show 2012—inviting for short walks during breaks.

ERBA Building - WE5

University of Bamberg An der Weberei 5 96047 Bamberg

GPS

Latitude: 49° 54′ 11.102″ N Longitude: 10° 52′ 8.41″ E



SOCIAL EVENTS

Welcome Reception

The Welcome Reception on Wednesday is held at the **Klosterbräu** — Bamberg's oldest brewery (started in 1533). The brewery is beautifully situated in the historic mill district on the banks of the river Regnitz. Please join us for a selection of typical franconian food and different beers. The Welcome Reception is open to all registered conference participants — please bring your badge.

Klosterbräu

Obere Mühlbrücke 1 96049 Bamberg

GPS

Latitude: 49° 53′ 20.76″ N Longitude: 10° 53′ 13.163″ E



Conference Banquet

The conference banquet on Thursday will be a festive gala dinner in the concert hall, home of the world famous Bamberg Symphony orchestra. The concert hall is directly connected to the Welcome Centre via a short underground walkway. Please bring your badge.

Konzerthalle Bamberg

Mußstraße 1 96047 Bamberg

GPS

Latitude: 49° 53′ 49.891″ N Longitude: 10° 52′ 43.982″ E



GETTING FROM A TO B

Bamberg is a small town, and with all conference venues close to the old town, we invite you to walk to reach the different venues. Strolling along the river Regnitz most times gets you from A to B in 10 to 15 minutes.

Public transportation in Bamberg is provided by the VGN, the Nuremberg Metropolitan Transport System, mainly in form of buses. A single trip ticket in Bamberg is 1,80 €. For more information on trasnport in Bamberg please go to the VGN website at http://www.vgn.de/en/bamberg?Edition=en or



If you want to further exlpore the whole Nuremberg Metropolitan Area, the VGN day ticket "TagesTicket Plus" allows two persons to use all buses, trains, subways in the whole network. This for example is also the best option for a trip to Nuremberg, which will take 45 minutes from Bamberg main station.

By Bus to Welcome Centre Bamberg and Concert Hall

From Bamberg's central bus station "Zentraler Omnibus Bahnhof (ZOB)" take bus line 906 or night line 938 until bus stop "Concert Hall" or "Mußstr". Alternatively you can take bus line 916 to the bus stop "Sandstr." and cross the Regnitz via the nearby footbridge.

By Bus to ERBA Building

From Bamberg's central bus station "Zentraler Omnibus Bahnhof (ZOB)" take bus line 906 or night line 938 until bus stop "Gaustadt/Spinnerei".

GENERAL INFORMATION FOR ATTENDEES

By Bus to Klosterbräu

From Bamberg's central bus station "Zentraler Omnibus Bahnhof (ZOB)" take bus line 918 or line 928 until bus stop "Bamberg/Schranne".

By Car

If you are in Bamberg by car, there is an underground car park next to the Welcome Centre (entrance from Mußstraße) and below the ERBA-Building (entrance from An der Spinnerei).

AT THE CONFERENCE

Lunch Breaks

There is a plethora of restaurants, cafes, and bars in the

old town of Bamberg, most in walking distance to the Welcome Centre Bamberg. The student volunteers prepared a list with recommendations, further we curated an interactive map with recommendations under the following URL http://www.pinterest.com/INTERACT2015/where-to-eat/



The restaurant **Plückers**, situated in the Welcome Centre, provides a small selection of inexpensive meals each day.

At the ERBA Building on Monday and Tuesday, there is lunch provided for all participants in a Tutorial, Workshop, or the Doctorial Consortium.

Wireless Access

INTERACT 2015 offers Internet access in its main conference venues Welcome Centre Bamberg and the ERBA

Building throughout all rooms. You can connect to the network with the SSID **interact2015** and the password **i15uniba**. Additionally **eduroam**-users can alternatively connect to the respective network with the credentials from their home institution.



Speaker Ready Room

At the Welcome Centre Bamberg, the room K1 serves as a speaker ready room. Speakers, panelists, etc. can rehearse their presentation or prepare materials there. You can freely access the room, but we ask you to come to a mutual arrangement with other participants that also want to use the room.

Conference Office

The conference office is located in the room K10 of the Welcome Centre Bamberg and in the room WE5/00.039 at the ERBA Building.

Social Media and Photo Sharing

At HCI conferences like INTERACT 2015 it is common that photos of crowd scenes, of presentations, or of people interacting with demos, etc., are taken. We ask you to use common courtesy when taking photos of individuals that are later uploaded to online platforms.

INTERACT 2015 generally encourages sharing of photos in social media — please add a **#interact2015** tag to photos and tweets.

Before, during and after the conference INTERACT 2015 also posts photos, updates, etc. in various social media platforms, amongst which are:

Twitter

http://twitter.com/interact2015

Facebook

http://www.facebook.com/interact2015

Flickr

http://www.flickr.com/photos/interact2015/

Pinterest

http://www.pinterest.com/interact2015/

	K 4/5	K 6/7	K 2	К3	K 8	K 9	K 11
09:30	Opening Plenary						
10:30	Opening Keynote Bill Gaver: Seriously I a Design-Led Approa Technology and Peop	ch to Explore					
12:00	Madness						
12:30	Lunch Break				1	-	1
14:00	TPS01.1 Mobile and Ubiquitous Interaction I		TPS01.2 User and Task Modelling	TPS01.3 Alternative Input and Output	TPS01.4 End-User Development	TPS01.5 Interfaces for Cognitive Support	TPS01.6 Cognitive Facto
15:30	Coffee Break						'
16:00 17:30		TPS02.1 Mobile and Ubiquitous Interaction II	PA01 Panel - Role of Conferences in Shaping the Field of HCI	TPS02.2 Brain-Computer Interaction	OO Organisational Overviews	TPS02.3 Alternative Input Devices for People with Disabilities	TPS02.4 HCI for Global Software Development

THUF	RSDAY 17 SE	EPTEMBER 2015						
	K 4/5	K 6/7	K 2	К 3	K 8	K 9	K 11	
08:30		Madness						
09:30		Industry Keynote Kevin Dame: Visioning and Culture Change at YouTube						
10:30	Coffee Break							
11:00	Correct Break		TPS03.1 Tangible and Tactile Interaction	angible and Tactile Visualisation		TPS03.4 Accessibility	TPS03.5 HCI for Education	
12:30	Lunch Break							
14:00		TPS04.1 Mullti-Screen Visualisation and Large Screens	PA02 Panel - Interaction and Humans in Internet of Things	TPS04.2 Visualisation and 3D	TPS04.3 Computer- Supported Cooperative Work and Social Computing II	TPS04.4 Accessible Interfaces for Blind People	TPS04.5 HCl for Developing Regions and Social Development	
15:30	Coffee Break							
16:30	DIP Highlight on Demos and Posters	TPS05.1 Interactive Tabletops	TPS05.2 Learning and Touching	TPS05.3 Visualisation in Virtual Spaces	TPS05.6 Social Interaction	TPS05.5 Accessible Interfaces for Older Adults	TPS05.4 HCl in Healthcare	
17:30								
19:00								
19:30 23:00	Conference Banquet	(Concert Hall Bamber	g)					

CONFERENCE AT A GLANCE

	K 6/7	K 2	K 3	K 8	K 9	K 11
08:15	Madness					
09:00	TPS06.1 Evaluation Methods and Usability Evaluation I	PA03 Panel - Design, Innovation and Respect in the Global South	TPS06.2 Human-Robot Interaction	TPS06.3 Participatory Design	TPS06.4 Affective HCI, Emotions, Motivational Aspects I	TPS06.5 HCl and Security
10:30	Coffee Break		l .	1		I
11:00	ITPS07.1 Evaluation Methods and Usability Evaluation II	TPS07.2 Touch and Haptic	TPS07.3 Gesture Interaction	TPS07.4 Tools for Design	TPS07.5 Affective HCI, Emotions, Motivational Aspects II	TPS07.6 HCI Studies I
12:30	Lunch Break	1		1	'	I.
14:00	TPS08.1 Evaluation Methods and Usability Evaluation III	TPS08.2 Wearable Computing	TPS08.3 Pointing and Gesture interaction	TPS08.4 Eye Tracking	TPS08.5 Affective HCI, Emotions, Motivational Aspects III	TPS08.6 HCI Studies II
15:30	Coffee Break	·				
16:00	Closing Keynote Virpi Roto: Towards Distinctive User Experiences					
			I .	1		1

TUTORIALS

T01: Modern Regression Techniques for HCI Researchers

09:00 - 17:30 | WE5/04.003

Martin Schmettow, University of Twente

T02: How to Design and Build New Musical Interfaces 09:00 - 12:30 | WE5/04.005

Sidney Fels, *University of British Columbia* Michael Lyons, *Ritsumeikan University*

T03: Working with Child Participants in Interaction Design

14:00 - 17:30 | WE5/04.005

Janet Read, UCLan

WORKSHOPS

W01: Methods for Undertaking Research on Technology With Older and Disabled People 09:00 - 17:30 | WE5/05.004

Helen Petrie, *University of York* Blaithin Gallagher, *National Council for the Blind* Jenny Darzentas, *University of the Aegean*

W02: IFIP WG 13.5 Workshop on Resilience, Reliability, Safety and Human Error in System Development 09:00 - 17:30 | WE5/01.017

Chris Johnson, University of Glasgow Mike Feary, NASA, Ames Research Center Célia Martinie, Université Paul Sabatier - Toulouse III Philippe Palanque, Université Paul Sabatier - Toulouse III Regina Peldszus, European Space Operations Centre

W03: Human Work Interaction Design (HWID): Design for Challenging Work Environments

09:00 - 17:30 | WE5/02.020

Verena Fuchsberger, University of Salzburg Martin Murer, University of Salzburg Manfred Tscheligi, University of Salzburg José Abdelnour-Nocera, University of West London Pedro Campos, Universidade da Madeira Frederica Gonçalves, Universidade da Madeira Barbara Rita Barricelli, Università degli Studi di Milano W04: IFIP WG 13.2 Workshop on User Experience and User-Centered Development Processes

09:00 - 17:30 | WE5/03.004

Marco Winckler, *Université Paul Sabatier* Regina Bernhaupt, *Université Paul Sabatier* Peter Forbrig, *Universität Rostock* Stefan Sauer, *Universität Paderborn*

W05: IFIP WG 13.7 Workshop on Designing Interaction and Visualization for Mobile Applications (DIVIM 2015) 09:00 - 17:30 | WE5/05.003

Shah Rukh Humayoun, *University of Kaiserslautern* Achim Ebert, *University of Kaiserslautern*

Steffen Hess, Fraunhofer IESE Gerrit van der Veer, Dalian Maritime University

DOCTORAL CONSORTIUM

DC: Doctoral Consortium 09:00 - 17:30 | WE5/05.003

Geraldine Fitzpatrick, Vienna University of Technology Panayiotis Zaphiris, Cyprus University of Technology

TUTORIALS

T04: Tutorial on Human Computer Interaction for Third Places - THCI-3P

09:00 - 17:30 | WE5/04.003

Junia Coutinho Anacleto, *UFSCar* Sidney Fels, *UBC* Roberto Calderon, *UBC*

T05: Sketching User Experiences Tutorial

09:00 - 12:30 | WE5/04.005

Nicolai Marquardt, University College London

T06: Design and Rapid Evaluation of Interactive Systems in Theory and Practice

14:00 - 17:30 | WE5/04.005

Jochen Denzinger, ma ma Interactive System Design Tom Gross, University of Bamberg

WORKSHOPS

W07: Learning Beyond the Classroom: for and About Older and Disabled People

09:00 - 17:30 | WE5/05.004

Gerhard Weber, Technische Universität Dresden Christopher Power, University of York Helen Petrie, University of York Jenny Darzentas, University of the Aegean

W08: Workshop on Interactivity in Healthcare Systems (IHS)

09:00 - 17:30 | WE5/01.017

Vicki Hanson, Rochester Institute of Technology Gemma Webster, University of Aberdeen Matt Dennis, University of Aberdeen

W09: The Landscape of the UX Requirements Practices 09:00 - 17:30 | WE5/02.020

Gregorio Convertino, Informatica Corporation Nancy Frishberg, Financial Engines Jettie Hoonhout, Philips Research Rosa Lanzilotti, University of Bari Marta Kristín Lárusdóttir, Reykjavik University Effie Lai-Chong Law, University of Leicester W10: Fostering Smart Energy Applications 09:00 - 17:30 | WE5/03.004

Masood Masoodian, *The University of Waikato* Elisabeth André, *Augsburg University* Thomas Rist, *University of Applied Sciences Augsburg*

WEDNESDAY OVERVIEW

15 minutes
SHORT PAPER

30 minutes
FULL PAPER

WEDNESDAY	16 SEPTEMBER 2015
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	09:30 - 10:30	10:30 - 11:45	12:00 - 12:30		14:00 - 15:30		16:00 - 17:30
6/7	Opening Plenary	Opening Keynote Bill Gaver: Seriously Playful: Using a Design- Led Approach to Explore Technology and People Page 15	Madness		TPS01.1 Mobile and Ubiquitous Interaction I Page 16		TPS02.1 Mobile and Ubiquitous Interaction II Page 19
K 2				_	TPS01.2 User and Task Modelling Page 16	C	PA01 Panel - Role of Conferences i Shaping the Field of HCI Page 19
				Lunch		off	
⟨3				Break	TPS01.3 Alternative Input and Output Page 16	Coffee Break (15:30	TPS02.2 Brain-Computer Interaction Page 20
				(12:30		5:30	
8				- 14:00)	TPS01.4 End-User Development Page 17) - 16:00)	OO Organisational Overviews Page 19
⟨9					TPS01.5 Interfaces for Cognitive Support Page 17		TPS02.3 Alternative Input Devices for People with Disabilities Page 20
11					TPS01.6 Cognitive Factors Page 18		TPS02.4 HCI for Global Software Development Page 20

19:30 - 21:30 | WELCOME RECEPTION (KLOSTERBRÄU BAMBERG)

Session Chair: Tom Gross, University of Bamberg

Location: K4-7

BILL GAVER

Interaction Research Studio



Seriously Playful: Using a Design-Led Approach to Explore Technology and People

Over more than a decade, I have worked with my Studio on projects in a variety of everyday contexts, producing highly-finished prototypes that range from a device that recreates the views from passing aircraft, to an appliance that serves as a resource for prayer, to a system that connects distributed energy communities with a stream of energy-obsessedbabble. In this talk, I describe our methodology and some of theparticular methods we use to investigate situations and people, develop ideas, and evaluate our work. Most generally, I suggest that our research takes advantage of the exciting methodological and conceptual freedom that comes from acknowledging Design as an alternative to Science.

Biography

Bill Gaver is Professor of Design and leads the Interaction Research Studio at Goldsmiths, University of London. His research on design-led methodologies and innovative technologies for everyday life led him to develop an internationally renowned studio bringing the skills of designers together with expertise in ubiquitous computing and sociology. With the Studio, he has developed approaches to design ranging from Cultural Probes to the use of documentary film to help assess peoples' experience with designs, pursued conceptual work on topics such as ambiguity and interpretation, and produced highly-finished prototypes that have been deployed for long-term field trials and exhibited internationally at venues such as the V&A Museum, Tate Britain, and New York's MOMA. He has published over 70 articles (h-index of 36) and is an elected member of the CHI Academy. He currently holds an ERC Advanced Investigator Grant and is principle investigator of a joint project with Sociology the co-construction of communities and environmental devices.

TPS01.1: MOBILE AND UBIQUITOUS INTERACTION I

Session Chair: Janet Louise Wesson, Nelson Mandela

Metropolitan University

Location: K6/7

If You Are Happy and You Know It, Say "I'm Here": Investigating Parents' Location-Sharing Preferences

Paolo Massa, Fondazione Bruno Kessler Chiara Leonardi, Fondazione Bruno Kessler Bruno Lepri, Fondazione Bruno Kessler Fabio Pianesi, Fondazione Bruno Kessler Massimo Zancanaro, Fondazione Bruno Kessler

UbiBeam: Exploring the Interaction Space for Home Deployed Projector-Camera Systems

Jan Gugenheimer, Ulm University Pascal Knierim, Stuttgart University Christian Winkler, Ulm University Julian Seifert, Ulm University Enrico Rukzio, Ulm University

Navigation in Long Forms on Smartphones: Scrolling worse than Tabs, Menus, and Collapsible Fieldsets

Johannes Harms, Vienna University of Technology Martina Kratky, Vienna University of Technology Christoph Wimmer, Vienna University of Technology Karin Kappel, Vienna University of Technology Thomas Grechenig, Vienna University of Technology

Synchronising Live Second Screen Applications with TV Broadcasts through User Feedback

Pedro Centieiro, Universidade Nova de Lisboa, Viva Superstars Digital Media Teresa Romão, Universidade Nova de Lisboa A. Eduardo Dias, Universidade Nova de Lisboa, Viva Superstars Digital Media Rui Madeira, Universidade Nova de Lisboa TPS01.2: USER AND TASK MODELLING

Session Chair: Marco Winckler, Université Paul Sabatier Location: K2

Enhanced Task Modelling for Systematic Identification and Explicit Representation of Human Errors

Racim Fahssi, *Université Paul Sabatier - Toulouse III* Célia Martinie, *Université Paul Sabatier - Toulouse III* Philippe Palanque, *Université Paul Sabatier - Toulouse III*

EvolutionWorks: Towards Improved Visualization of Citation Networks

FULL PAPER

FULL PAPER

SHORT PAPER

SHORT PAPER

Jason Wilkins, Texas A&M University Jaakko Järvi, Texas A&M University Ajit Jain, Texas A&M University Gaurav Kejriwal, Texas A&M University Andruid Kerne, Texas A&M University Vijay Kumar, Texas A&M University

Quantifying Object- and Command-oriented Interaction

Alix Goguey, *Inria* Julie Wagner, *University of Munich (LMU)* Géry Casiez, *University of Lille*

Users, Bystanders and Agents: Participation Roles in Human-Agent Interaction

Antonia Krummheuer, Aalborg University

TPS01.3: ALTERNATIVE INPUT AND OUTPUT

Session Chair: Anirudha Joshi, IIT Bombay Location: K3

Shape-Change for Zoomable TUIs: Opportunities and Limits of a Resizable Slider

Céline Coutrix, CNRS Cédric Masclet, UJF-G-SCOP FULL PAPER

FULL PAPER

SHORT PAPER

SHORT PAPER

FULL PAPER

SHORT PAPER



PrintPut: Resistive and Capacitive Input Widgets for Interactive 3D Prints

Jesse Burstyn, Queen's University Nicholas Fellion, Queen's University, Creative Interactions Lab, Carleton University Paul Strohmeier, Queen's University Roel Vertegaal, Queen's University

ReservoirBench: An Interactive Educational Reservoir Engineering Workbench

Sowmya Somanath, University of Calgary Allan Rocha, University of Calgary Hamidreza Hamdi, University of Calgary Ehud Sharlin, University of Calgary Mario Costa Sousa, University of Calgary

AirDisplay: Experimenting with Air Flow as a **Communication Medium**

Omar Mowafi, German University in Cairo Mohamed Khamis, University of Munich Wael Abouelsaadat, German University in Cairo

Experiencing the Elements - User Study with Natural Material Probes

Jonna Häkkilä, University of Lapland Yun He, University of Oulu Ashley Colley, University of Oulu

END-USER DEVELOPMENT

Session Chair: Fabio Paternò, CNR-ISTI Location: K8

How to Organize the Annotation Systems in Human-Computer Environment: Study, Classification and Observations

Anis Kalboussi, Kairouan University ReDCAD Research Laboratory, Sfax University Nizar Omheni, Kairouan Universit ReDCAD Research Laboratory, Sfax University Omar Mazhoud, Kairouan Universi ReDCAD Research Laboratory, Sfax University Ahmed Hadj Kacem, Faculty of Economics and Management Sfax University and ReDCAD Research Laboratory

Mini-Orb: A Personal Indoor Climate Preference Feedback Interface

Markus Rittenbruch, Queensland University of Technology Jared Donovan, Queensland University of Technology Yasuhiro Santo, Queensland University of Technology

SHORT PAPER

SHORT PAPER

SHORT PAPER

SHORT PAPER

FULL PAPER

FULL PAPER

Prototyping the Self-Authored Video Interview: Challenges and Opportunities

Stephen Snow, Queensland University of Technology Markus Rittenbruch, Queensland University of Technology Margot Brereton, Queensland University of Technology

Flat Design vs Traditional Design: **Comparative Experimental Study**

SHORT PAPER

Ivan Burmistrov, Lomonosov Moscow State University, interUX Usability Engineering Studio Tatiana Zlokazova, Lomonosov Moscow State University Anna Izmalkova, Lomonosov Moscow State University Anna Leonova, Lomonosov Moscow State University

TPS01.5: INTERFACES FOR COGNITIVE **SUPPORT**

Session Chair: Marta Kristin Larusdottir, Reykjavik University Location: K9

Cognitive Accessibility for Mentally **Disabled Persons**

Stefan Johansson, KTH Royal Institute of Technology Jan Gulliksen, KTH Royal Institute of Technology Ann Lantz, KTH Royal Institute of Technology

Serious Games for Cognitive Training in Ambient Assisted Living Environments - A **Technology Acceptance Perspective**

Jan Wittland, RWTH Aachen University Philipp Brauner, RWTH Aachen University Martina Ziefle, RWTH Aachen University

Design and Evaluation of Mobile Learning Applications for Autistic Children in **Pakistan**

Muneeb Ahmad, MARCS Institute Suleman Shahid, Tilburg centre for Cognition and Communication

Exercises for German-Speaking Children with Dyslexia

Maria Rauschenberger, OFFIS - Institute for Information Technology Silke Füchsel, Universitiy of Applied Science Emden/Leer Luz Rello, Change Dyslexia Foundation, Cookie Cloud Barcelona Clara Bayarri, Cookie Cloud Barcelona

Jörg Thomaschewski, Universitiy of Applied Science Emden/Leer

FULL PAPER

FULL PAPER

SHORT PAPER

SHORT PAPER

TPS01.6: COGNITIVE FACTORS

Session Chair: Michail Xenos, Hellenic Open University

Location: K11

Bilingual Reading Experiences: What They Could Be and How To Design for Them

FULL PAPER

Clément Pillias, Conservatoire National des Arts et Métiers Pierre Cubaud, Conservatoire National des Arts et Métiers

Text Touching Effects in Active Reading: The Impact of the Use of a Touch-based Tablet Device

FULL PAPER

Hirohito Shibata, Fuji Xerox Co., Ltd. Kentaro Takano, Fuji Xerox Co., Ltd. Shun'ichi Tano, The University of Electro-Communications

Dynamic Workload Adjustments in Human-Machine Systems Based on GSR Features

SHORT PAPER

Jianlong Zhou, National ICT Australia (NICTA)
Ju Young Jung, National ICT Australia (NICTA) University of Sydney
Fang Chen, National ICT Australia (NICTA)

A Human Cognitive Processing Perspective in Designing E-Commerce Checkout Processes

SHORT PAPER

Marios Belk, University of Cyprus Panagiotis Germanakos, SAP SE Argyris Constantinides, University College London George Samaras, University of Cyprus

00: ORGANISATIONAL OVERVIEWS

Session Chair: Kori Inkpen, Microsoft Research

Location: K8

Contextual Interaction Design Research: Enabling HCI

Martin Murer, University of Salzburg
Alexander Meschtscherjakov, University of Salzburg
Verena Fuchsberger, University of Salzburg
Manuel Giuliani, University of Salzburg
Katja Neureiter, University of Salzburg
Christiane Moser, University of Salzburg
Ilhan Aslan, University of Salzburg
Manfred Tscheligi, University of Salzburg

Organisational Overview: Institute for Design and Assessment of Technology, Vienna University of Technology (TU Wien)

Geraldine Fitzpatrick, Vienna University of Technology
Hilda Tellioglu, Vienna University of Technology
Wolfgang Zagler, Vienna University of Technology
Margit Pohl, Vienna University of Technology
Florian Güldenpfennig, Vienna University of Technology
Oliver Hödl, Vienna University of Technology
Roman Ganhör, Vienna University of Technology
Peter Mayer, Vienna University of Technology
Christopher Frauenberger, Vienna University of Technology

Technology Experience Research: A Framework for Experience Oriented Technology Development

Manfred Tscheligi, Austrian Institute of Technology Sebastian Egger, Austrian Institute of Technology Peter Fröhlich, Austrian Institute of Technology Cristina Olaverri-Monreal, Austrian Institute of Technology Georg Regal, Austrian Institute of Technology

Usability Testing Practise in MIMOS Usability Lab

Norfarhana Abdollah, MIMOS Berhad Ashok Sivaji, MIMOS Berhad Masitah Ghazali, MIMOS Berhad, Universiti Teknologi Malaysia

PA01: PANEL - ROLE OF CONFERENCES IN SHAPING THE FIELD OF HCI

Session Chair: Anirudha Joshi, IIT Bombay

Location: K2

Role of Conferences in Shaping the Field of HCI

PANEL

Jan Gulliksen, KTH Royal Institute of Technology Simone Barbosa, PUC-Rio Anirudha Joshi, IIT Bombay Shaun Lawson, University of Lincoln Philippe Palanque, University of Toulouse

TPS02.1: MOBILE AND UBIQUITOUS INTERACTION II

Session Chair: Nikolaos Avouris, University of Patras

Location: K6/7

Towards Deeper Understanding of User Experience with Ubiquitous Computing Systems: Systematic Literature Review and Design Framework

FULL PAPER

Kaisa Väänänen-Vainio-Mattila, Tampere University of Technology Thomas Olsson, Tampere University of Technology Jonna Häkkilä, University of Lappland

Cue Now, Reflect Later: A Study of Delayed Reflection of Diary Events

SHORT PAPER

Ming Ki Chong, Lancaster University Jon Whittle, Lancaster University Umar Rashid, University of Kent Chee Siang Ang, University of Kent

Tick that Box: Interactive Paper Documents

SHORT PAPER

Yomna Abdelrahman, University of Stuttgart Thomas Kubitza, University of Stuttgart Katrin Wolf, University of Stuttgart Norman pohl, University of Stuttgart Albrecht Schmidt, University of Stuttgart

uCanvas: A Web Framework for Spontaneous Smartphone Interaction with Ubiquitous Displays SHORT PAPER

Tilman Dingler, University of Stuttgart Tobias Bagg, University of Stuttgart Yves Grau, University of Stuttgart Niels Henze, University of Stuttgart Albrecht Schmidt, University of Stuttgart

Wireless Smartphone Mirroring in Video Calls

Henrik Sørensen, Aalborg University Kenton O'Hara, Microsoft Research, Cambridge Phill Gosset, Microsoft Research, Cambridge Jesper Kjeldskov, Aalborg University

SHORT PAPER

TPS02.3: **ALTERNATIVE INPUT DEVICES** FOR PEOPLE WITH DISABILITIES

Eyes and Keys: An Evaluation of Click

Ken Neth Yeoh, University of Auckland

Gerald Weber, University of Auckland

Christof Lutteroth, University of Auckland

Alternatives Combining Gaze and Keyboard

Session Chair: Monique Noirhomme, namur university Location: K9

TPS02.2: BRAIN-COMPUTER INTERACTION

Session Chair: Vanda Benešová, Slovak University of Technology in Bratislava

Location: K3

Continuous Mental Effort Evaluation During 3D Object Manipulation Tasks Based on **Brain and Physiological Signals**

Dennis Wobrock, Immersion, Bordeaux, INRIA

Jérémy Frey, Univ. Bordeaux, LaBRI, CNRS, LaBRI, INRIA

Delphine Graef, Immersion, Bordeaux Jean-Baptiste de la Rivière, *Immersion, Bordeaux* Julien Castet, Immersion, Bordeaux Fabien Lotte, INRIA,

Univ. Bordeaux, LaBRI, CNRS, LaBRI

FULL PAPER

Interactions Under the Desk: A **Characterisation of Foot Movements for** Input in a Seated Position

Eduardo Velloso, Lancaster University Jason Alexander, Lancaster University Andreas Bulling, Max Planck Institute for Informatics (Saarbrücken) Hans Gellersen, Lancaster University

Life in the Fast Lane: Effect of Language and Calibration Accuracy on the Speed of **Text Entry by Gaze**

Kari-Jouko Räihä, University of Tampere

Continuous Tactile Feedback for Motor-**Imagery based Brain-Computer Interaction** in a Multitasking Context

Camille Jeunet, University of Bordeaux Chi Vi, University of Bristol Daniel Spelmezan, University of Bristol Bernard N'Kaoua, University of Bordeaux Fabien Lotte, Inria Bordeaux Sud-Ouest / LaBRI Sriram Subramanian, University of Bristol

Towards Brain Computer Interfaces for Recreational Activities: Piloting a Drone

Nataliya Kosmyna, Grenoble INP Franck Tarpin-Bernard, Univ. Grenoble Alpes Bertrand Rivet, Grenoble INP

FULL PAPER

FULL PAPER

TPS02.4: **HCI FOR GLOBAL SOFTWARE DEVELOPMENT**

Session Chair: Peter Forbrig, University of Rostock Location: K11

Non-response, Social Exclusion, and False Acceptance: Gatekeeping Tactics and Usability Work in Free-Libre Open Source **Software Development**

Mikko Rajanen, University of Oulu Netta livari, University of Oulu Arto Lanamäki, University of Oulu

Task Allocation between UX Specialists and **Developers in Agile Software Development Projects**

Kati Kuusinen, Tampere University of Technology

FULL PAPER

20

FULL PAPER

FULL PAPER

FULL PAPER

FULL PAPER

An Interactive Approach for Inspecting Software System Measurements

SHORT PAPER

Taimur Khan, University of Kaiserslautern Henning Barthel, Fraunhofer IESE Karsten Amrhein, University of Kaiserslautern Achim Ebert, University of Kaiserslautern Peter Liggesmeyer, University of Kaiserslautern, Fraunhofer IESE

Digital Signage Effectiveness in Retail Stores

SHORT PAPER

Mari Anne Ervasti, VTT Technical Research Centre of Finland Juha Sakari Häikiö, VTT Technical Research Centre of Finland Minna Hannele Isomursu, University of Oulu Esa Pekka Isomursu, Oulu University of Applied Sciences Tiina Maria Liuska, Oulu University of Applied Sciences

THURSDAY OVERVIEW

 15 minutes 30 minutes SHORT PAPER FULL PAPER **THURSDAY** 17 SEPTEMBER 2015 08:30 - 09:15 9:30 - 10:30 11:00 - 12:30 14:00 - 15:30 16:00 - 17:30 19:00 K 4/5 DIP Highlight on Demos and Posters Page 33 K 6/7 Madness Industry IP01 **TPS04.1** TPS05.1 Keynote What's it Really Like Mullti-Screen Interactive Tabletopss Working in Industry? Kevin Dame: Visualisation and Large Page 30 INDUSTRY Visioning and A Day in the Life Screens CultureChange of Industry Page 27 at YouTube Researchers Page 23 Page 24 K 2 **TPS03.1 PA02 TPS05.2** Tangible and Tactile Panel - Interaction and Learning and Touching Interaction Page 32 Humans in Internet of Page 24 Things Page 27 Coffee Break Coffee Break Lunch Break (12:30 K 3 TPS05.3 **TPS03.2 TPS04.2** Visualisation Visualisation and 3D Visualisation in Virtual Page 24 Page 27 **Spaces** Page 30 (15:30 (10:30)K 8 **TPS03.3 TPS04.3** TPS05.6 1 Computer-Supported Computer-Supported Social Interaction 16:00) Cooperative Work and Cooperative Work and Page 31 Social Computing I Social Computing II Page 28 Page 25 K 9 **TPS03.4 TPS04.4 TPS05.5** Accessibility Accessible Interfaces Accessible Interfaces for Page 25 for Blind People Older Adults Page 28 Page 31 K 11 **TPS03.5 TPS04.5 TPS05.4 HCI** for Education **HCI** for Developing HCI in Healthcare Page 26 Regions and Social Page 30 Development Page 28

19:30 - 23:00 | CONFERENCE BANQUET (CONCERT HALL BAMBERG)

Session Chair: Melanie Fitzgerald, Google

Location: K6/7

KEVIN DAME

YouTube



Visioning and Culture Change at YouTube

In this talk, Kevin will give audience members a unique, behind-the-scenes glimpse into organizational change within Google. He'll talk about how he founded and grew the Visioning Team at YouTube and helped transform YouTube's culture around product innovation, collaboration, and strategic thinking. Touching on the conference themes of Connection, Tradition and Innovation, Kevin's story focuses on the challenges of innovating in a strong culture with many traditions and well-established norms, and how he helped connect YouTubers to their users but creating stronger connections between YouTubers.

Biography

Kevin has over 20 years of design strategy and innovation experience. He's led strategic vision setting programs for a wide range of Fortune 500 companies and has launched many successful new products in his career. Leveraging his diverse background as an engineer, marketer, and IDEO designer, Kevin founded and leads the Visioning Team at YouTube which helps product teams identify opportunities and craft a clear vision for their produc

IP01: INDUSTRY PANEL - WHAT'S IT REALLY LIKE WORKING IN INDUSTRY? A DAY IN THE LIFE OF INDUSTRY RESEARCHERS

Session Chair: Tom Gross, University of Bamberg

Location: K6/7

What's it Really Like Working in Industry? A Day in the Life of Industry Researchers

PANEL

Melanie Fitzgerald, Google David Dearman, Twitter Kori Inkpen, Microsoft Research Chuan She, Facebook Hartmut Obendorf, Xing

TPS03.1: TANGIBLE AND TACTILE INTERACTION

Session Chair: Martina Joisten, Rheinische Fachhochschule

Köln

Location: K2

Need for Touch in Human Space Exploration: Towards the Design of a Morphing Haptic Glove – ExoSkin

FULL PAPER

Sue Ann Seah, University of Bristol Marianna Obrist, University of Sussex Anne Roudaut, University of Bristol Sriram Subramanian, University of Bristol

Tactile Communication in Extreme Contexts: Exploring the Design Space Through Kiteboarding

FULL PAPER

André Schmidt, Aarhus University Mads Kleemann, Aarhus University Timothy R. Merritt, Aarhus School of Architecture Ted Selker, Carnegie Mellon University

Child or Adult? Inferring Smartphone Users' Age Group from Touch Measurements Alone

SHORT PAPER

Radu-Daniel Vatavu, *University Stefan cel Mare of Suceava* Lisa Anthony, *University of Florida* Quincy Brown, *Bowie State University*

Designing of 2D Illusory Tactile Feedback for Hand-held Tablets

SHORT PAPER

Youngsun Kim, Korea University (South Korea) Jaedong Lee, Korea University (South Korea) Gerard Jounghyun Kim, Korea University (South Korea)

TPS03.2: VISUALISATION

Session Chair: Simone DJ Barbosa, *PUC-Rio* Location: K3

Proxemic Flow: Dynamic Peripheral Floor Visualizations for Revealing and Mediating Large Surface Interactions

FULL PAPER

Jo Vermeulen, University of Birmingham, Hasselt University - tUL - iMinds Kris Luyten, Hasselt University - tUL - iMinds Karin Coninx, Hasselt University - tUL - iMinds Nicolai Marquardt, University College London Jon Bird, City University

Self-Actuated Displays for Vertical Surfaces

FULL PAPER

Patrick Bader, Stuttgart Media University,
University of Stuttgart
Valentin Schwind, Stuttgart Media University,
University of Stuttgart
Norman Pohl, Stuttgart Media University,
University of Stuttgart
Niels Henze, University of Stuttgart
Katrin Wolf, University of Stuttgart
Stefan Schneegass, University of Stuttgart
Albrecht Schmidt, University of Stuttgart

Augmented Happiness: Simple Color Changes Influence Users' Conceptual Choices

SHORT PAPER

Diana Loeffler, University of Wuerzburg Wolfgang Paier, Fraunhofer HHI Takashi Toriizuka, Nihon University Mio Ikeda, Nihon University Jörn Hurtienne, University of Wuerzburg

Investigating Representation Alternatives for Communicating Uncertainty to Non-Experts

SHORT PAPER

Miriam Greis, *Universität Stuttgart* Thorsten Ohler, *Universität Stuttgart* Niels Henze, *Universität Stuttgart* Albrecht Schmidt, *Universität Stuttgart*

TPS03.3: COMPUTER-SUPPORTED COOPERATIVE WORK AND SOCIAL COMPUTING I

Session Chair: Michael Koch, *Bundeswehr University Munich* **Location:** K8

EmbodiNet: Enriching Distributed Musical Collaboration through Embodied Interactions

FULL PAPER

Dalia El-Shimy, McGill University Jeremy R. Cooperstock, McGill University

Preference Elicitation and Negotiation in a Group Recommender System

FULL PAPER

Jesús Omar Álvarez Márquez, University of Duisburg-Essen Jürgen Ziegler, University of Duisburg-Essen

The #selfiestation: Design and Use of a Kiosk for Taking Selfies in the Enterprise

SHORT PAPER

Casey Dugan, IBM Research Sven Laumer, University of Bamberg Thomas Erickson, IBM Research Wendy Kellogg, IBM Research Werner Geyer, IBM Research

The LuminUs: Providing Musicians with Visual Feedback on the Gaze and Body Motion of their Co-Performers

SHORT PAPER

Evan Lloyd Morgan, Queen Mary University Hatice Gunes, Queen Mary University Nick Bryan-Kinns, Queen Mary University

TPS03.4: ACCESSIBILITY

Session Chair: Zdenek Mikovec, Czech Technical University in Prague

Location: K9

Assisted Interaction Data Analysis of Web-Based User Studies

FULL PAPER

Xabier Valencia, University of the Basque Country Eduardo Perez, University of the Basque Country Unai Muñoz, University of the Basque Country Myriam Arrue, University of the Basque Country Julio Abascal, University of the Basque Country Technology Acceptance Evaluation by Deaf Students Considering the Inclusive Education Context

FULL PAPER

Soraia Silva Prietch, *Universidade Federal de Mato Grosso, Universidade de São Paulo* Lucia Vilela Leite Filgueiras, *Universidade de São Paulo*

Understanding touch and motion gestures for blind people on mobile devices

SHORT PAPER

Marco Romano, *Universidad Carlos III de Madrid* Andrea Bellucci, *Universidad Carlos III de Madrid* Ignacio Aedo, *Universidad Carlos III de Madrid*

Virtual Buttons for Eyes-Free Interaction: A Study

SHORT PAPER

Jens Bauer, *TU Kaiserslautern* Achim Ebert, *TU Kaiserslautern*

TPS03.5: HCI FOR EDUCATION

Session Chair: Gerrit C. van der Veer, Dalian Maritime University **Location:** K11

Evaluating Digital Tabletop Collaborative Writing in the Classroom

FULL PAPER

Philip Heslop, Newcastle University
Anne Preston, Newcastle University
Ahmed Kharrufa, Newcastle University
Madeline Balaam, Newcastle University
David Leat, Newcastle University
Patrick Olivier, Newcastle University

Using IMUs to Identify Supervisors on Touch Devices

FULL PAPER

Ahmed Kharrufa, Newcastle University
James Nicholson, Newcastle University
Paul Dunphy, Newcastle University
Steve Hodges, Microsoft Research, Cambridge
Pam Briggs, Nothumbria University
Patrick Olivier, Newcastle University

The 5-Step Plan - Empowered Children's Robotic Product Ideas

SHORT PAPER

Lara Lammer, Vienna University of Technology Astrid Weiss, Vienna University of Technology Markus Vincze, Vienna University of Technology

Evaluating the Accuracy of Pre-Kindergarten Children Multi-touch Interaction

SHORT PAPER

Vicente Nacher, Universitat Politècnica de Valencia Javier Jaen, Universitat Politècnica de Valencia

PA02: PANEL - INTERACTION AND HUMANS IN INTERNET OF THINGS

Session Chair: Markku Turunen, University of Tampere

Location: K2

Interaction and Humans in Internet of Things

PANEL

Markku Turunen, *University of Tampere*Daniel Sonntag, *DFKI*Klaus-Peter Engelbrecht, *Technische Universität Berlin*Thomas Olsson, *Tampere University of Technology*Dirk Schnelle-Walka, *S1nn GmbH & Co. KG*Andrés Lucero, *University of Southern Denmark*

TPS04.1: MULLTI-SCREEN VISUALISATION AND LARGE SCREENS

Session Chair: Achim Ebert, University of Kaiserslautern

Location: K6/7

Disperse: Enabling Web-Based Visualization in Multi-Screen and Multi-User Environments

FULL PAPER

Megan Monroe, *IBM* Casey Dugan, *IBM*

Evaluation of Distance-aware Bimanual Manipulation Techniques for Large High-Resolution Displays

FULL PAPER

FULL PAPER

Anke Lehmann, *TU Dresden*Oliver Staadt, *University of Rostock*

Should I Stay or Should I Go? Selecting Between Touch and Mid-air Gestures For Large-Display Interaction

Mikkel R. Jakobsen, *University of Copenhagen* Yvonne Jansen, *University of Copenhagen* Sebastian Boring, *University of Copenhagen* Kasper Hornbæk, *University of Copenhagen*

TPS04.2: VISUALISATION AND 3D

Session Chair: Brygg Ullmer, Louisiana State University

Location: K3

3D-HUDD - Developing a Prototyping Tool for 3D Head-Up Displays

FULL PAPER

Nora Broy, BMW Research and Technology Matthias Nefzger, University of Munich Florian Alt, University of Munich Mariam Hassib, University of Stuttgart Albrecht Schmidt, University of Stuttgart

MStoryG: Exploring Serendipitous Storytelling Within High Anxiety Public Spaces

FULL PAPER

Clinton Luis Jorge, University of Madeira Valentina Nisi, University of Madeira Julian Hanna, University of Madeira Nuno Nunes, University of Madeira Miguel Caldeira, University of Madeira Amanda Marinho, University of Madeira

Design and Evaluation of Mirror Interface MIOSS to Overlay Remote 3D Spaces

SHORT PAPER

Ryo Ishii, NTT Corporation Shiro Ozawa, NTT Corporation Akira Kojima, NTT Corporation Kazuhiro Otsuka, NTT Corporation Yuki Hayashi, Osaka Prefecture university Yukiko Nakano, Seikei University

Improving Spatial Awareness for Human Trajectory Visualization in Space-Time Cubes

SHORT PAPER

Tiago Gonçalves, *University of Lisbon* Ana Paula Afonso, *University of Lisbon* Bruno Martins, *University of Lisbon*

27

TPS04.3: COMPUTER-SUPPORTED COOPERATIVE WORK AND SOCIAL COMPUTING II

Session Chair: Raquel Prates, UFMG

Location: K8

An Information Ecology in a Nutshell: A Distributed Cognition Perspective for Collaboration and Coordination

Christina Vasiliou, Cyprus University of Technology Andri Ioannou, Cyprus University of Technology Panayiotis Zaphiris, Cyprus University of Technology

EXCITE: EXploring Collaborative Interaction in Tracked Environments

Nicolai Marquardt, *University College London* Frederico Schardong, *University of Calgary* Anthony Tang, *University of Calgary*

Augmenting Collaborative MOOC Video Viewing with Synchronized Textbook

Nan Li, *EPFL* Lukasz Kidzinski, *EPFL* Pierre Dillenbourg, *EPFL*

Assessing a Collaborative Application for Comic Strips Composition

Eleonora Mencarini, *University of Trento,* FBK-irst Gianluca Schiavo, *University of Trento,* FBK-irst Alessandro Cappelletti, FBK-irst Oliviero Stock, FBK-irst Massimo Zancanaro, FBK-irst

The Usefulness of Method-Resources for Evaluating a Collaborative Training Simulator

Ebba Thora Hvannberg, *University of Iceland* Gyda Halldorsdottir, *University of Iceland* Jan Rudinsky, *University of Iceland* TPS04.4: ACCESSIBLE INTERFACES FOR BLIND PEOPLE

Session Chair: Manfred Tscheligi, University of Salzburg

Location: K9

FULL PAPER

SHORT PAPER

SHORT PAPER

SHORT PAPER

SHORT PAPER

Navigation Problems in Blind-to-Blind Pedestrians Tele-assistance Navigation

Jan Balata, Czech Technical University in Prague Zdenek Mikovec, Czech Technical University in Prague Ivo Maly, Czech Technical University in Prague

Comparing Concurrent and Retrospective Verbal Protocols for blind and sighted users

Andreas Savva, *University of York* Helen Petrie, *University of York* Christopher Power, *University of York*

Inclusive Production of Tactile Graphics

Jens Bornschein, Technische Universität Dresden Denise Prescher, Technische Universität Dresden Gerhard Weber, Technische Universität Dresden

Exploring Map Orientation with Interactive Audio-Tactile Maps

Alistair Edwards, *University of York* Nazatul Hamid, *University of York* Helen Petrie, *University of York*

TPS04.5: HCI FOR DEVELOPING REGIONS AND SOCIAL DEVELOPMENT

Session Chair: Jose Abdelnour-Nocera, University of West London

Location: K11

Penan's Oroo' Short Message Signs (PO-SMS): Co-design of a Digital Jungle Sign Language Application

Tariq Zaman, *Universiti Malaysia Sarawak* Heike B.A. Winschiers-Theophilus, *Polytechnic of Namibia* FULL PAPER

FULL PAPER

SHORT PAPER

SHORT PAPER

FULL PAPER

The Whodunit Challenge: Mobilizing the Crowd in India

FULL PAPER

Aditya Vashistha, *University of Washington* Rajan Vaish, *UC Santa Cruz* Edward Cutrell, *Microsoft Research India* William Thies, *Microsoft Research India*

HCI Practices in the Nigerian Software Industry

SHORT PAPER

Abiodun Afolayan Ogunyemi, *Tallinn University* David Lamas, *Tallinn University* Rotimi Emmanuel Adagunodo, *Obafemi Awolowo Universityia* Isaias Barreto Da Rosa, *ECOWAS Commissionia*

Wayfinding Behavior in India

SHORT PAPER

Naveed Ahmed, Industrial Design Centre, IIT Bombay

TPS05.1: INTERACTIVE TABLETOPS

Session Chair: Nicolai Marquardt, University College London Location: K6/7

HoverSpace: Analyses of the Perceived Spatial Affordances of Hover Interaction Above Tabletop Surfaces

FULL PAPER

Paul Lubos, Universität Hamburg Oscar Ariza, Universität Hamburg Gerd Bruder, Universität Hamburg Florian Daiber, German Research Center for Artificial Intelligence Frank Steinicke, Universität Hamburg Antonio Krüger, German Research Center for Artificial Intelligence

In-Situ Occlusion Resolution for Hybrid Tabletop Environments

FULL PAPER

Jan Riemann, *TU Darmstadt* Mohammadreza Khalilbeigi, *TU Darmstadt* Max Mühlhäuser, *TU Darmstadt*

MovemenTable: The Design of Moving Interactive Tabletops

FULL PAPER

Kazuki Takashima, *Tohoku University* Yusuke Asari, *Tohoku University* Hitomi Yokoyama, *Tokyo University of Agriculture and Technology* Ehud Sharlin, *University of Calgary* Yoshifumi Kitamura, *Tohoku University*

TPS05.3: VISUALISATION IN VIRTUAL SPACES

Session Chair: Frank Steinicke, Universität Hamburg Location: K3

Exploring the Use of Virtual Environments in an Industrial Site Design Process

FULL PAPER

Ashley Colley, *University of Oulu* Jani Väyrynen, *University of Oulu* Jonna Häkkilä, *University of Lapland*

The Comparison of Performance, Efficiency, and Task Solution Strategies in Real, Virtual and Dual Reality Environments

FULL PAPER

Frederic Raber, DFKI GmbH Antonio Krüger, DFKI GmbH Gerrit Kahl, DFKI GmbH

Estimating Visual Comfort in Stereoscopic Displays Using Electroencephalography: A Proof-of-Concept

SHORT PAPER

Jérémy Frey, Univ. Bordeaux, CNRS, INRIA Aurélien Appriou, INRIA Fabien Lotte, INRIA, Univ. Bordeaux, CNRS Martin Hachet, INRIA, Univ. Bordeaux, CNRS

Pointing in Spatial Augmented Reality from 2D Pointing Devices

SHORT PAPER

Renaud Gervais, *Inria Bordeaux* Jérémy Frey, *Univ. Bordeaux*, *CNRS* Martin Hachet, *Inria Bordeaux*

TPS05.4: HCI IN HEALTHCARE

Session Chair: Paula Kotze, CSIR Meraka Institute Location: K11

Smartphone-based Gait Measurement Application and its Effects on the Lifestyle of Senior Citizens

FULL PAPER

Takahiro Miura, the University of Tokyo, the University of Tokyo Ken-ichiro Yabu, the University of Tokyo Atsushi Hiyama, the University of Tokyo Noriko Inamura, Urban Design Center Kashiwa-no-ha (UDCK) Michitaka Hirose, the University of Tokyo Tohru Ifukube, the University of Tokyo

Low-Income Parents' Values Involving the Use of Technology for Accessing Health Information

FULL PAPER

David Munoz, *IBM*Rosa Arriaga, *Georgia Institute of Technology*

Breathe with Touch: A Tactile Interface for Breathing Assistance System

SHORT PAPER

Bin YU, Technology University of Eindhoven Netherlands Loe Feijs, Technology University of Eindhoven Netherlands Mathias Funk, Technology University of Eindhoven Netherlands Jun Hu, Technology University of Eindhoven Netherlands



Probing the potential of multimedia artefacts to support communication of people with dementia

SHORT PAPER

Alina Huldtgren, Eindhoven University of Technology, University of Applied Science Düsseldorf Fabian Mertl, University of Applied Science Düsseldorf Anja Vormann, University of Applied Science Düsseldorf Christian Geiger, University of Applied Science Düsseldorf

TPS05.5: ACCESSIBLE INTERFACES FOR OLDER ADULTS

Session Chair: Panayiotis Zaphiris, Cyprus University of Technology

Location: K9

Prototyping TV and Tablet Facebook Interfaces for Older Adults

FULL PAPER

José Coelho, University of Lisbon Fábio Rito, University of Lisbon Nuno Luz, University of Lisbon Carlos Duarte, University of Lisbon

Socially Networked or Isolated? Differentiating Older Adults and the Role of Tablets and Television

FULL PAPER

José Coelho, *University of Lisbon* Carlos Duarte, *University of Lisbon*

Using Photo Diaries to Elicit User Requirements from Older Adults: a case study on mobility barriers

David Swallow, *University of York* Helen Petrie, *University of York* Christopher Power, *University of York* Alistair D N Edwards, *University of York* FULL PAPER

TPS05.6: SOCIAL INTERACTION

Session Chair: Junia Coutinho Anacleto, UFSCar

Location: K8

Sharing Wishes on Public Displays: Using Technology to Create Social Places

FULL PAPER

Vinicius Afonso Raimundo Ferreira, Federal University of Sao Carlos Junia Anacleto, Federal University of Sao Carlos Andre Bueno, Federal University of Sao Carlos

Social Interaction Design Patterns For Urban Media Architecture

FULL PAPER

Luke Hespanhol, Design and Planning University of Sydney Peter Dalsgaard, Aarhus University

Thinking like Disney: Supporting the Disney Method Using Ambient Feedback Based on Group Performance

SHORT PAPER

Sarah Tausch, *University of Munich (LMU)*Fabius Steinberger, *University of Munich (LMU)*Heinrich Hußmann, *University of Munich (LMU)*

Eery Space: Facilitating Virtual Meetings Through Remote Proxemics

SHORT PAPER

Maurício Sousa, INESC-ID Lisboa, University of Lisbon Daniel Mendes, INESC-ID Lisboa, University of Lisbon Alfredo Ferreira, INESC-ID Lisboa, University of Lisbon João Madeiras Pereira, INESC-ID Lisboa, University of Lisbon Joaquim Jorge, INESC-ID Lisboa,

University of Lisbon

TPS05.2: LEARNING AND TOUCHING

Session Chair: Clarisse de Souza, PUC-Rio

Location: K2

How does HCI Research Affect Education Programs? A Study in the Brazilian Context

FULL PAPER

Isabela Gasparini, UDESC Simone Barbosa, PUC-Rio Milene Silveira, FACIN/PUCRS Silvia Amelia Bim, UTFPR Clodis Boscarioli, UNIOESTE

MindMiner: A Mixed-Initiative Interface for Interactive Distance Metric Learning

FULL PAPER

Xiangmin Fan, University of Pittsburgh Youming Liu, University of Pittsburgh Nan Cao, IBM T.J. Watson Research Center Jason Hong, Carnegie Mellon University Jingtao Wang, University of Pittsburgh

Glass+Skin: An Empirical Evaluation of the Added Value of Finger Identification to Basic Single-Touch Interaction on Touch Screens

FULL PAPER

Quentin Roy, Telecom ParisTech Yves Guiard, Telecom ParisTech Gilles Bailly, Telecom ParisTech Éric Lecolinet, Telecom ParisTech Olivier Rioul, Telecom ParisTech

Design and Usability Evaluation of Adaptive E-learning Systems based on Learner Knowledge and Learning Style

SHORT PAPER

Mohammad Alshammari, *University of Birmingham* Rachid Anane, *Coventry University* Robert J. Hendley, *University of Birmingham*

Tangible Voting: a technique for interacting with group choices on a tangible tabletop

SHORT PAPER

Valérie Maquil, Luxembourg Institute of Science and Technology Eric Tobias, Luxembourg Institute of Science and Technology Thibaud Latour, Luxembourg Institute of Science and Technology



DIP: HIGHLIGHT ON DEMOS AND POSTERS

Session Chairs: Stephen Brewster, University of Glasgow

David McGookin, Aalto University

POSTER

POSTER

POSTER

POSTER

POSTER

POSTER

Location: K4/5

A Hybrid Approach for Visualizing Spatial and Non-Spatial Data Types of Embedded Systems

Ragaad AlTarawneh, *University of Kaiserslautern* Shah Rukh Humayoun, *University of Kaiserslautern* Achim Ebert, *University of Kaiserslautern*

A Multi-Modal System for Public Speaking
- Pilot Study on Evaluation of Real-time
Feedback

Fiona Dermody, *Dublin City University* Alistair Sutherland, *Dublin City University* Margaret Farren, *Dublin City University*

A Study on How to Express Non-Manual Markers in the Electronic Dictionary of Japanese Sign Language

Mina Terauchi, *Polytechnic University* Yuji Nagashima, *Kogakuin University*

Applying "Out of Body" Vibrotactile Illusion to Two-Finger Interaction for Perception of Object Dynamics

Jaedong Lee, Korea University, Seoul (South Korea) Youngsun Kim, Korea University, Seoul (South Korea) Gerard Jounghyun Kim, Korea University, Seoul (South Korea)

Development of Usability-Criteria for the Selection Process of Document Management Systems

Antje Heinicke, RWTH Aachen Christina Bröhl, RWTH Aachen Ioannis Dokas, RWTH Aachen Katrin Walbaum, RWTH Aachen Jennifer Bützler, RWTH Aachen Christopher Schlick, RWTH Aachen

Digital Co-Design Applied to Healthcare Environments: A Comparative Study

Lei Sh, University of Warwick James MacKrill, University of Warwick Elisavet Dimitrokali, University of Warwick Carolyn Dawson, University of Warwick Rebecca Cain, University of Warwick Dual Camera Magic Lens for Handheld AR Sketching

Klen Čopič Pucihar, *University of Primorska* Jens Grubert, *Technical University Graz* Matjaž Kljun, *University of Primorska*

Enabling Naturalness and Humanness in Mobile Voice Assistants

Sanjay Ghosh, Samsung R&D Institute Bangalore Jatin Pherwani, Samsung R&D Institute Bangalore

Estimation of Radius of Curvature of Lumbar Spine Using Bending Sensor for Low Back Pain Prevention

Takakuni litsuka, Kochi University of Technology Kyoko Shibata, Kochi University of Technology Yoshio Inoue, Kochi University of Technology

Evaluation of dispatcher requirements on automated customer feedback in public transport

Cindy Mayas, TU Ilmenau Stephan Hörold, TU Ilmenau Anselmo Stelzer, TU Darmstadt Frank Englert, TU Darmstadt Heidi Krömker, TU Ilmenau

Experiences of Teaching HCl to a Multidisciplinary Cohort of Computing and Design Students

Omar Mubin, *University of Western Sydney* Abdullah Al Mahmud, *Swinburne University of Technology* Suleman Shahid, *Tilburg University Netherlands*

Experiencing a Home Energy Management System: Finding Opportunities for Design

BingXin Ni, Delft University of Technology Abdullah Al Mahmud, Swinburne University of Technology David V. Keyson, Delft University of Technology

Eye Strain from Switching Focus in Optical See-through Displays

Jaeun Yu, Korea University (South Korea) Gerard Jounghyun Kim, Korea University (South Korea)

First Impression Matters: Exploring the Mediating Effect of Previous Experience on the Perception of Beauty and Usability

Suleman Shahid, *Tilburg University Netherlands* Omar Mubin, *University of Western Sydney* POSTER

POSTER

POSTER

POSTER

POSTER

POSTER

POSTER

POSTER

IDA – The Intelligent Driver Assistant for Smart City Parking in Singapore

Andreea I. Niculescu, Institute for Infocomm Reseach Rafael E. Banchs, Institute for Infocomm Reseach

Informing Costumers via Interactive Shelves

Peter Rogelj, University of Primorska

Intelligent Ankle-foot Orthosis by Energy Regeneration for Controllable Damping during Gait in Real Time

Kyoko SHIBATA, Kochi University of Technology Yoshio INOUE, Kochi University of Technology Hironobu SATOH, Kochi National College of Technology

Interactive Check System for Facilitating Self-awareness of Dorm Students in Upper Secondary Education

Shigenori Akamatsu, Kochi College Masanobu Yoshida, Kochi College Hironobu Satoh, Kochi College Takumi Yamaguchi, Kochi College

Interactive Toys in the Home: A Parents Perspective

Omar Mubin, University of Western Sydney Ducan Rutishauser, University of Western Sydney Mauricio Novoa, University of Western Sydney Derek Wainohu, InfaSecure Private Limited Suleman Shahid, Tilburg University Netherlands

Learning Lessons from Controlled Studies to Elicit and Investigate Users' Resilience Strategies

Jonathan Day, City University London George Buchanan, City University London Stephann Makri, City University London

LightWatch: A Wearable Light Display for Personal Exertion

Jutta Fortmann, University of Oldenburg
Janko Timmermann, OFFIS - Institute for Information Technology
Bengt Lüers, University of Oldenburg
Marius Wybrands, University of Oldenburg
Wilko Heuten, OFFIS - Institute for Information Technology
Susanne Boll, University of Oldenburg

POSTER

Perceptive Media – Adaptive Storytelling for Digital Broadcast

Adrian-Ioan Gradinar, Lancaster University
Daniel Burnett, Lancaster University
Paul Coulton, Lancaster University
Ian Forrester, Lancaster University
Matt Watkins, Lancaster University
Tom Scutt, Lancaster University
Emma Murphy, Lancaster University

POSTER

POSTER

POSTER

POSTER

Redesigning Interaction in CODES

Elisa Leo de Oliveira, Instituto Federal do Rio Grande do Sul Evandro Manara Miletto, Instituto Federal do Rio Grande do Sul Luciano V. Flores, Instituto Federal do Rio Grande do Sul

Small Community Size of Private SNS for Bonding Relationship: Development of a Research Framework

Hyeonjung Ahn, Sungkyunkwan University (South Korea) Sangwon Lee, Sungkyunkwan University (South Korea)

Sushi Train Interface: Passive and Interactive Information Sharing

Tomomi Takashina, *Nikon Corporation* Yuji Kokumai, *Nikon Corporation*

Tangible Microscope with Intuitive Stage Control Interface

Tomomi Takashina, *Nikon Corporation* Hitoshi Kawai, *Nikon Corporation* Yuji Kokumai, *Nikon Corporation*

POSTER

Touch Skin: Proprioceptive Input for Small Screen Devices

Changhyeon Lee, Korea University (South Korea) Jaedong Lee, Korea University (South Korea) Gerard Jounghyun Kim, Korea University (South Korea)

POSTER

Towards In-Air Gesture Control of Household Appliances with Limited Displays

Euan Freeman, *University of Glasgow* Stephen Brewster, *University of Glasgow* Vuokko Lantz, *Nokia Technologies*

Video-conferencing in e-commerce website: Effect on perceived service quality and trust

Suleman Shahid, Tilburg University Netherlands Abdullah Al Mahmud, Swinburne University of Technology Omar Mubin, University of Western Sydney

POSTER

POSTER

POSTER

POSTER

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POSTER

POSTER

"I was here": Enabling Tourists to Leave Digital Graffiti on Historic Landmarks

Matjaž Kljun, *University of Primorska* Klen Čopič Pucihar, *University of Primorska*

BlurtLine: A design exploration to support children with ADHD in classrooms

Dorothé Smit, Eindhoven University of Technology Saskia Bakker, Eindhoven University of Technology

Cooperation in Real-time Using a Virtual Environment

Máté Köles, Budapest University of Technology and Economics Károly Hercegfi, Budapest University of Technology and Economics Balázs Péter Hámornik, Budapest University of Technology and Economics

Emma Lógó, Budapest University of Technology and Economics Bálint Szabó, Budapest University of Technology and Economics Anita Komlódi, University of Maryland Baltimore Count

Diving into the Data Ocean

DEMO

DEMO

DEMO

Dieter Meiller, East Bavarian Technical University Amberg-Weiden

ETA Wizard App: Make Design and Evaluation of Accessible Electronic Travel Aids Easy

Limin Zeng, *TU Dresden* Gerhard Weber, *TU Dresden* Alexander Fickel, *TU Dresden*

Generating Narratives from Personal Digital Data: Using Sentiment, Themes, and Named Entities To Construct Stories

Elaine Farrow, *University of Edinburgh* Thomas Dickinson, *The Open University* Matthew P. Aylett, *University of Edinburgh*

Interactive Light Feedback: Illuminating Above-Device Gesture Interfaces

Euan Freeman, *University of Glasgow* Stephen Brewster, *University of Glasgow* Vuokko Lantz, *Nokia Technologies*

StoreAnt: A System to Support Finding Collaborative Systems Evaluation Methods

DEMO

DEMO

Marcella Leandro Costa de Souza, *Universidade Federal de Minas* Gerais

Lidia Silva Ferreira, Universidade Federal de Minas Gerais Raquel de Oliveira Prates, Universidade Federal de Minas Gerais Marilia Lyra Bergamo, Universidade Federal de Minas Gerais

POSTER

DEMO

DEMO

TUIOFX—Toolkit Support for the Development of JavaFX Applications for Interactive Tabletops

Mirko Fetter, *University of Bamberg* David Bimamisa, *University of Bamberg* DEMO

FRIDAY OVERVIEW

15 minutes 30 minutes
SHORT PAPER FULL PAPER

FRID	AY	18 SEPTEMBER 2015							
	08:15 - 09:00	09:00 - 10:30		11:00 - 12:30		14:00 - 15:30		16:00 - 17:00	17:00 - 18:00
K 6/7	Madness	TPS06.1 Evaluation Methods and Usability Evaluation I Page 37		TPS07.1 Evaluation Methods and Usability Evaluation II Page 39		TPS08.1 Evaluation Methods and Usability Evaluation III Page 42		Closing Keynote Virpi Roto: Towards Distinctive User Experiences Page 45	Closing Plenary
K 2		PA03 Panel - Design, Innovation and Respect in the Global South Page 37		TPS07.2 Touch and Haptic Page 39	Lunch Break (12:30 – 14:00)	TPS08.2 Wearable Computing Page 42	Coffee Break (15:30 – 16:00)		
К3		TPS06.2 Human-Robot Interaction Page 37	Coffee Break	TPS07.3 Gesture Interaction Page 39		TPS08.3 Pointing and Gesture interaction Page 42			
K 8		TPS06.3 Participatory Design Page 37	ak (10:30 - 11:00)	TPS07.4 Tools for Design Page 40		TPS08.4 Eye Tracking Page 43			
K 9		TPS06.4 Affective HCI, Emotions, Motivational Aspects I Page 38	00)	TPS07.5 Affective HCI, Emotions, Motivational Aspects II Page 40	00)	TPS08.5 Affective HCI, Emotions, Motivational Aspects III Page 43	00)		
K 11		TPS06.5 HCI and Security Page 38		TPS07.6 HCI Studies I Page 41		TPS08.6 HCI Studies II Page 43			



Friday, 18 Sept. / 9:00 - 10:30

SESSIONS

PA03: PANEL - DESIGN, INNOVATION AND RESPECT IN THE GLOBAL SOUTH

Session Chair: Jose Abdelnour-Nocera, University of West

London

Location: K2

Design, Innovation and Respect in the Global South

PANEL

Jose Abdelnour-Nocera, University of West London, Madeira Interactive Technologies Institute Chris Csikszentmihályi, Madeira Interactive Technologies Institute Torkil Clemmensen, Copenhagen Business School Christian Sturm, Hamm-Lippstadt University of Applied Sciences

TPS06.1: EVALUATION METHODS AND USABILITY EVALUATION I

Session Chair: Martin Schmettow, *University of Twente* **Location:** K6/7

An Empirical Study of the Effects of Three Think-Aloud Protocols on Identification of Usability Problems

FULL PAPER

Anders Bruun, Aalborg University Jan Stage, Aalborg University

An Observational Study of How Experienced Programmers Annotate Program Code

FULL PAPER

Craig Sutherland, *The University of Auckland* Andrew Luxton-Reilly, *The University of Auckland* Beryl Plimmer, *The University of Auckland*

Around-Device Interactions: A Usability Study of Frame Markers in Acquisition Tasks

SHORT PAPER

Fernando Garcia-Sanjuan, ISSI/DSIC, Universitat Politècnica de València Alejandro Catala, ISSI/DSIC, Universitat Politècnica de València Geraldine Fitzpatrick, Vienna University of Technology Javier Jaen, ISSI/DSIC, Universitat Politècnica de València

On Applying Experience Sampling Method to A/B Testing of Mobile Applications: A Case Study

SHORT PAPER

MyungHee Lee, Korea University (South Korea) Gerrad Jounghyun Kim, Korea University (South Korea)

TPS06.2: HUMAN-ROBOT INTERACTION

Session Chair: Gerhard Weber, Technische Universität Dresden **Location:** K3

Deploying Robots in a Production Environment: A Study on Temporal Transitions of Workers' Experiences

FULL PAPER

Daniela Wurhofer, University of Salzburg Thomas Meneweger, University of Salzburg Verena Fuchsberger, University of Salzburg Manfred Tscheligi, University of Salzburg

Finding Objects Faster in Dense Environments using a Projection Augmented Robotic Arm

FULL PAPER

Hind Gacem, Télécom ParisTech and CNRS LTCI UMR Gilles Bailly, Télécom ParisTech and CNRS LTCI UMR James Eagan, Télécom ParisTech and CNRS LTCI UMR Eric Lecolinet, Télécom ParisTech and CNRS LTCI UMR

It's Not the Way You Look, It's How You Move: Validating a General Scheme for Robot Affective Behaviour

FULL PAPER

Jekaterina Novikova, *University of Bath* Gang Ren, *University of Bath* Leon Watts, *University of Bath*

TPS06.3: PARTICIPATORY DESIGN

Session Chair: Dieter Meiller, East Bavarian Technical University Amberg-Weiden

Location: K8

Funky-design-spaces: Interactive Environments for Creativity Inspired by Observing Designers Making Mood Boards

FULL PAPER

Andrés Lucero, University of Southern Denmark

Paper or Pixel? Comparing Paper- and Toolbased Participatory Design Approaches

FULL PAPER

Matthias Heintz, *University of Leicester* Effie Lai-Chong Law, *University of Leicester* Samaneh Soleimani, *University of Leicester*

Kwento: Using a Participatory Approach to Design a Family Storytelling Application for Domestic Helpers

SHORT PAPER

Kakit Cheong, National University of Singapore Alex Mitchell, National University of Singapore

Participatory Design in Practice: the case of an embroidered technology

SHORT PAPER

Laura Cortes-Rico, *Pontificia Universidad Javeriana* Giovanny Piedrahita-Solorzano, *Politecnico Grancolombiano*

TPS06.4: AFFECTIVE HCI, EMOTIONS, MOTIVATIONAL ASPECTS I

Session Chair: Rosa I. Arriaga, *Georgia Institute of Technology* **Location:** K9

Design Criteria for Stimulating Emotions in Web Applications

FULL PAPER

Giulio Mori, National Research Council (CNR) Fabio Paternò, National Research Council (CNR) Ferdinando Furci, National Research Council (CNR)

Emotion Detection in Non-Native English Speakers' Text-Only Messages by Native and Non-Native Speakers

FULL PAPER

Ari Hautasaari, NTT Communication Science Laboratories Naomi Yamashita, NTT Communication Science Laboratories

Making Decisions about Digital Legacy with Google's Inactive Account Manager

SHORT PAPER

Raquel Prates, *UFMG, PSU*Mary Beth Rosson, *PSU*Clarisse S. de Souza, *PUC-Rio*

Shedding Lights on Human Values: An Approach to Engage Families with Energy Conservation

Janine Huizenga, Waag Society Lara S. G. Piccolo, The Open University Meia Wippoo, Waag Society Christoph Meili, WWF Schweiz Andrew Bullen, The Creative Cooperative SHORT PAPER

TPS06.5: HCI AND SECURITY

Session Chair: Philippe Palanque, Université Paul Sabatier

Toulouse III

Location: K11

Toward a Deeper Understanding of Data Analysis, Sensemaking, and Signature Discovery

FULL PAPER

Sheriff Jolaoso, Virginia Tech Russ Burtner, Pacific Northwest National Laboratory Alex Endert, Georgia Tech

CipherCard: A Token-based Approach against Camera-based Shoulder Surfing Attacks on Common Touchscreen Devices

FULL PAPER

Teddy Seyed, University of Calgary Xing-Dong Yang, University of Calgary Anthony Tang, University of Calgary Saul Greenberg, University of Calgary Jiawei Gu, Baidu Institute of Deep Bin Zhu, Miscrosoft Research Asia Xiang Cao, Xiaoxiaoniu Creative Technologies

Automatic Privacy Classification of Personal Photos

SHORT PAPER

Daniel Buschek, *University of Munich (LMU)* Moritz Bader, *University of Munich (LMU)* Emanuel von Zezschwitz, *University of Munich (LMU)* Alexander De Luca, *Google Zurich*

"I agree": the effects of embedding terms of service key points in online user registration form

SHORT PAPER

Matjaž Kljun, University of Primorska Jernej Vičič, University of Primorska Klen Čopič Pucihar, University of Primorska Branko Kavšek, University of Primorska



Friday, 18 Sept. / 11:00 - 12:30

SESSIONS

TPS07.1: EVALUATION METHODS AND USABILITY EVALUATION II

Session Chair: Torkil Clemmensen, Copenhagen Business

Schoole

Location: K6/7

Usability Aspects of the Inside-in Approach for Ancillary Search Tasks on the Web

FULL PAPER

Marco Winckler, Université Paul Sabatier Ricardo Cava, Universidade Federal do Rio Grande do Sul Eric Barboni, Université Paul Sabatier Philipe Palanque, Université Paul Sabatier Carla Freitas, Universidade Federal do Rio Grande do Sul

Using Affinity Diagrams to Evaluate Interactive Prototypes

FULL PAPER

Andrés Lucero, University of Southern Denmark

What Users Prefer and Why: A User Study on Effective Presentation Styles of Opinion Summarization

FULL PAPER

Xiaojun Yuan, *UAlbany, SUNY* Ning Sa, *UAlbany, SUNY* Grace Begany, *UAlbany, SUNY* Huahai Yang, *Juji*.

TPS07.2: TOUCH AND HAPTIC

Session Chair: Marianna Obrist, *University of Sussex* **Location:** K2

Where to Start? Exploring the Efficiency of Translation Movements on Multitouch Device

FULL PAPER

Quan Nguyen, German Research Center for Artificial Intelligence Michael Kipp, University of Applied Sciences

Actuated Shear: Enabling Haptic Feedback on Rich Touch Interfaces

SHORT PAPER

Bernhard Maurer, University of Salzburg Roland Buchner, University of Salzburg Martin Murer, University of Salzburg Manfred Tscheligi, University of Salzburg

Characterizing the Influence of Motion Parameters on Performance when Acquiring Moving Targets

SHORT PAPER

Alexandre Kouyoumdjian, *Université Paris-Sud* Nicolas Férey, *Université Paris-Sud* Patrick Bourdot, *Université Paris-Sud* Stéphane Huot, *INRIA Lille*

Comparing Fatigue when Using Large Horizontal and Vertical Multi-Touch Interaction Displays

SHORT PAPER

Shiroq Al-Megren, School of Computing, University of Leeds Ahmed Kharrufa, Newcastle University Jonathan Hook, University of York Amey Holden, Newcastle University Selina Sutton, Newcastle University Patrick Olivier, Newcastle University

Touch, Movement & Vibration: User Perception of Vibrotactile Feedback for Touch and Mid-Air Gestures

SHORT PAPER

Christian Schönauer, Vienna University of Technology Annette Mossel, Vienna University of Technology Ionut Zaiti, University Stefan cel Mare of Suceava Radu-Daniel Vatavu, University Stefan cel Mare of Suceava

TPS07.3: GESTURE INTERACTION

Session Chair: Markus Rittenbruch, Queensland University of

Technology

Location: K3

Gestu-Wan - An Intelligible Mid-Air Gesture Guidance System for Walk-up-and-Use Displays

FULL PAPER

Gustavo Rovelo, Hasselt University Donald Degraen, Hasselt University Davy Vanacken, Hasselt University Kris Luyten, Hasselt University Karin Coninx, Hasselt University

Sci-Fi Gestures Catalog: Understanding the Future of Gestural Interaction

FULL PAPER

Lucas Silva Figueiredo, Federal University of Pernambuco Mariana Gonçalves Maciel Pinheiro, Federal University of Pernambuco Edvar Xavier da Costa Vilar Neto, Federal University of Pernambuco Thiago de Menezes Chaves, Federal University of Pernambuco Veronica Teichrieb, Federal University of Pernambuco

Natural Interaction with Video Environments Using Gestures and a Mirror-image Avatar

Christian Kray, University of Münster Dennis Wilhelm, University of Münster Thore Fechner, University of Münster Morin Ostkamp, University of Münster

TV Interaction Beyond the Button Press
- Exploring the Implications of Gesture,
Pressure and Breath as Interaction
Mechanisms for a TV User Interface

Regina Bernhaupt, Université Paul Sabatier Antoine Desnos, Université Paul Sabatier Michael M. Pirker, ruwido austria gmbh Daniel Schwaiger, ruwido austria gmbh

TPS07.4: TOOLS FOR DESIGN

Session Chair: Kori Inkpen, Microsoft

Location: K8

Dico: A Conceptual Model to Support the Design and Evaluation of Advanced Search Features for Exploratory Search

Emanuel Felipe Duarte, Universidade Estadual de Maringá (UEM) Edson OliveiraJr, Universidade Estadual de Maringá (UEM) Filipe Roseiro Côgo, Universidade Tecnológica Federal do Paraná Roberto Pereira, IC, Universidade Estadual de Campinas

Revealing Differences in Designers' and Users' Perspectives: A Tool-supported Process for Visual Attention Prediction for Designing HMIs for Maritime Monitoring Tasks

Sebastian Feuerstack, OFFIS e.V. Bertram Wortelen, OFFIS e.V.

Worth-Centered Design in Practice: Lessons from Experience and Research Agenda

Fatoumata Camara, *Laboratoire d'Informatique de Grenoble* Gaëlle Calvary, *Laboratoire d'Informatique de Grenoble*

SHORT PAPER

SHORT PAPER

FULL PAPER

FULL PAPER

FULL PAPER

TPS07.5: AFFECTIVE HCI, EMOTIONS, MOTIVATIONAL ASPECTS II

Session Chair: Effie Law, University of Leicester

Location: K9

Gamification of Online Surveys: Design Process, Case Study, and Evaluation

Johannes Harms, Vienna University of Technology Stefan Biegler, Vienna University of Technology Christoph Wimmer, Vienna University of Technology Karin Kappel, Vienna University of Technology Thomas Grechenig, Vienna University of Technology

Mind the Gap! Comparing Retrospective and Concurrent Ratings of Emotion in User Experience Evaluation

Anders Bruun, Aalborg University Simon Ahm, Aalborg University

Recognizing Emotions in Human Computer Interaction: Studying Stress using Skin Conductance

Alexandros Liapis, Hellenic Open University
Christos Katsanos, Hellenic Open University,
Technological Educational Institute of Western Greece
Dimitris Sotiropoulos, Hellenic Open University
Michalis Xenos, Hellenic Open University
Nikolaos Karousos, Hellenic Open University,
Technological Educational Institute of Western Greece

Physical Playlist: Bringing Back the Mix-Tape

Daniel John Burnett, Lancaster University Adrian Gradinar, Lancaster University Joel Porter, Lancaster University Mike Stead, Lancaster University Paul Coulton, Lancaster University Ian Forrester, BBC FULL PAPER

FULL PAPER

SHORT PAPER

SHORT PAPER

TPS07.6: HCI STUDIES I

Session Chair: Konrad Baumann, FH Joanneum University of

Applied Sciences

Location: K11

Swimming the Channels: An Analysis of Online Archival Reference Enquiries

FULL PAPER

Joseph Pugh, *University of York* Christopher Power, *University of York*

"Not some trumped up beef": Assessing Credibility of Online Restaurant Reviews

FULL PAPER

Marina Kobayashi, *Google* Victoria Schwanda Sosik, *Google* David Huffaker, *Google*

An Empirical Investigation of the Practices and Challenges Specific to International User Studies

FULL PAPER

Sabine Madsen, IT University of Copenhagen Lene Nielsen, IT University of Copenhagen Heidi Hautopp, Aalborg University (Copenhagen) Iben Jensen, Aalborg University (Copenhagen)

TPS08.1: EVALUATION METHODS AND USABILITY EVALUATION III

Session Chair: Ebba Thora Hvannberg, University of Iceland

Location: K6/7

Testing the Unknown – Value of Usability Testing for Complex Professional Systems Development

FULL PAPER

Kimmo Tarkkanen, University of Turku Ville Harkke, University of Turku Pekka Reijonen, University of Turku

Computer-Related Attribution Styles: Typology and Data Collection Methods

FULL PAPER

Adelka Niels, Luebeck University of Applied Sciences Monique Janneck, Luebeck University of Applied Sciences

A Comparison of Five HSV Color Selection Interfaces for Mobile Painting Search

SHORT PAPER

Min Zhang, The University of Nottingham Guoping Qiu, The University of Nottingham Natasha Alechina, The University of Nottingham Sarah Atkinston, The University of Nottingham

Reciprocity in Rapid Ethnography: Giving Back by Making the Small Things Count

SHORT PAPER

Pieter Duysburgh, iMinds - SMIT - VUB Karin Slegers, CUO | Social Spaces - KU Leuven / iMinds

TPS08.2: WEARABLE COMPUTING

Session Chair: Hilda Tellioglu, Vienna University of Technology **Location:** K2

Towards a Model of Virtual Proxemics for Wearables

FULL PAPER

Junia Coutinho Anacleto, Federal University of São Carlos Sidney Fels, University of British Columbia

Hard-to-get-at data from difficult-to-access users

SHORT PAPER

Bob Fields, Middlesex University Andy Bardill, Middlesex University Lisa Marzano, Middlesex University Kate Herd, Middlesex University

Oh, What A Night! Effortless Sleep Monitoring At Home

SHORT PAPER

Bert Vandenberghe, CUO | Social Spaces, iMinds - KU Leuven David Geerts, CUO | Social Spaces, iMinds - KU Leuven

SkInteract: An On-Body Interaction System Based on Skin-Texture Recognition

SHORT PAPER

Manuel Prätorius, *University of Muenster* Aaron Scherzinger, *University of Muenster* Klaus Hinrichs, *University of Muenster*

ZENse - Supporting Everyday Emotional Reflection

SHORT PAPER

Christian Löw, Vienna University of Technology Chalid Gad-El-Hak, Vienna University of Technology Roman Ganhör, Vienna University of Technology Hilda Tellioglu, Vienna University of Technology

TPS08.3: POINTING AND GESTURE INTERACTION

Session Chair: Mirko Fetter, *University of Bamberg* **Location:** K3

Enhancing Pinch-Drag-Flick Paradigm with Two New Gestures: Two-Finger-Tap for Tablets and Tap&Tap for Smartphones

FULL PAPER

Alessio Bellino, Università di Milano-Bicocca

Estimating Production Time of Touchless Hand Drawing Gestures

FULL PAPER

Orlando Erazo, University of Chile, Universidad Técnica Estatal de Quevedo José A. Pino, University of Chile Pedro Antunes, Victoria University of Wellington

Better than you Think: Head Gestures for Mid Air Input

SHORT PAPER

Katrin Plaumann, Ulm University Jan Ehlers, Ulm University Florian Geiselhart, Ulm University Gabriel Yuras, Ulm University Anke Huckauf, Ulm University Enrico Rukzio, Ulm University

The Costs and Benefits of Combining Gaze and Hand Gestures for Remote Interaction

SHORT PAPER

Yanxia Zhang, Lancaster University
Sophie Stellmach, Microsoft Corporation
Abigail Sellen, Microsoft Research
Andrew Blake A, Microsoft Research

TPS08.5: AFFECTIVE HCI, EMOTIONS, MOTIVATIONAL ASPECTS III

Session Chair: Helen Petrie, University of York

Location: K9

TPS08.4: EYE TRACKING

Session Chair: Kari-Jouko Räihä, University of Tampere Location: K8

LEGO Pictorial Scales for Assessing Affective Response

FULL PAPER

Mohammad Obaid, t2i Lab, Chalmers University of Technology Andreas Duenser, CSIRO Elena Moltchanova, University of Canterbury Danielle Cummings, Texas A&M University Johannes Wagner, Augsburg University

Christoph Bartneck, *University of Canterbury*

An Empirical Investigation of Gaze Selection in Mid-Air Gestural 3D Manipulation

FULL PAPER

Eduardo Velloso, Lancaster University
Jayson Turner, Lancaster University
Jason Alexander, Lancaster University
Andreas Bulling, Max Planck Institute for Informatics (Saarbrücken)
Hans Gellersen, Lancaster University

Using Online Reviews as Narratives to Evoke Designer's Empathy

FULL PAPER

Christiane Grünloh, Cologne University of Applied Sciences Åke Walldius, KTH Royal Institute of Technology Gerhard Hartmann, Cologne University of Applied Sciences Jan Gulliksen, KTH Royal Institute of Technology

Four Eyes See More Than Two: Shared Gaze in the Car

FULL PAPER

Sandra Trösterer, University of Salzburg
Magdalena Gärtner, University of Salzburg
Martin Wuchse, University of Salzburg
Bernhard Maurer, University of Salzburg
Axel Baumgartner, University of Salzburg
Alexander Meschtscherjakov, University of Salzburg
Manfred Tscheligi, University of Salzburg

The Presenter Experience of Canvas Presentations

SHORT PAPER

Leonhard Lichtschlag, RWTH Aachen University Philipp Wacker, RWTH Aachen University Martina Ziefle, RWTH Aachen University Jan Borchers, RWTH Aachen University

The Influence of Motivation on Emotional

Gaze+Touch vs. Touch: What's the Tradeoff when Using Gaze to Extend Touch to Remote Displays?

Ken Pfeuffer, Lancaster University Jason Alexander, Lancaster University Hans Gellersen, Lancaster University FULL PAPER

Samaneh Soleimani, *University of Leicester* Effie Lai-Chong Law, *University of Leicester*

Experience in E-commerce

SHORT PAPER

TPS08.6: HCI STUDIES II

Session Chairs: Andrina Granic, *University of Split,* **Location:** K11

Entity-Centric Visualization of Open Data

FULL PAPER

Sajan Raj Ojha, *University of Trento*, Mladjan Jovanovic, *University of Trento*, Fausto Giunchiglia, *University of Trento*,

43

Mindful Gaming: How Digital Games can Improve Mindfulness

FULL PAPER

Jacek Sliwinski, *University of the Sunshine Coast* Christian Martyn Jones, *University of the Sunshine Coast* Mary Katsikitis, *University of the Sunshine Coast*

The Affordances of Broken Affordances

FULL PAPER

Martin Gielsgaard Grünbaum, *University of Copenhagen* Jakob Grue Simonsen, *University of Copenhagen*

Session Chair: Julio Abascal, University of the Basque Country

Location: K4-7

VIRPI ROTO

Aalto University, School of Arts, Design and Architecture

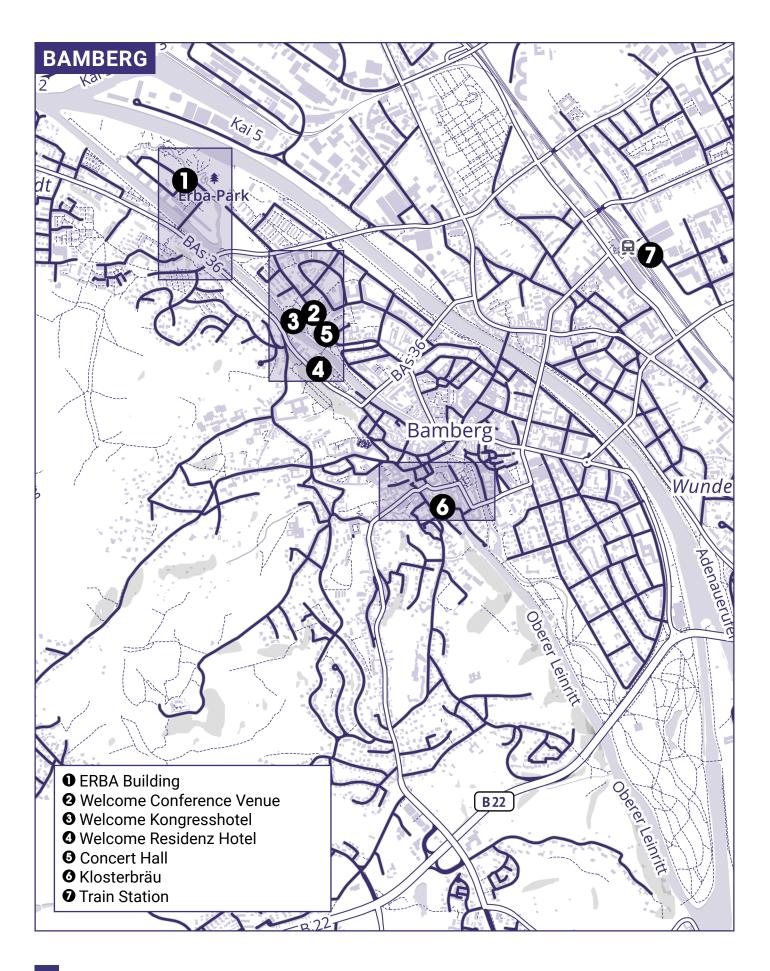


Towards Distinctive User Experience

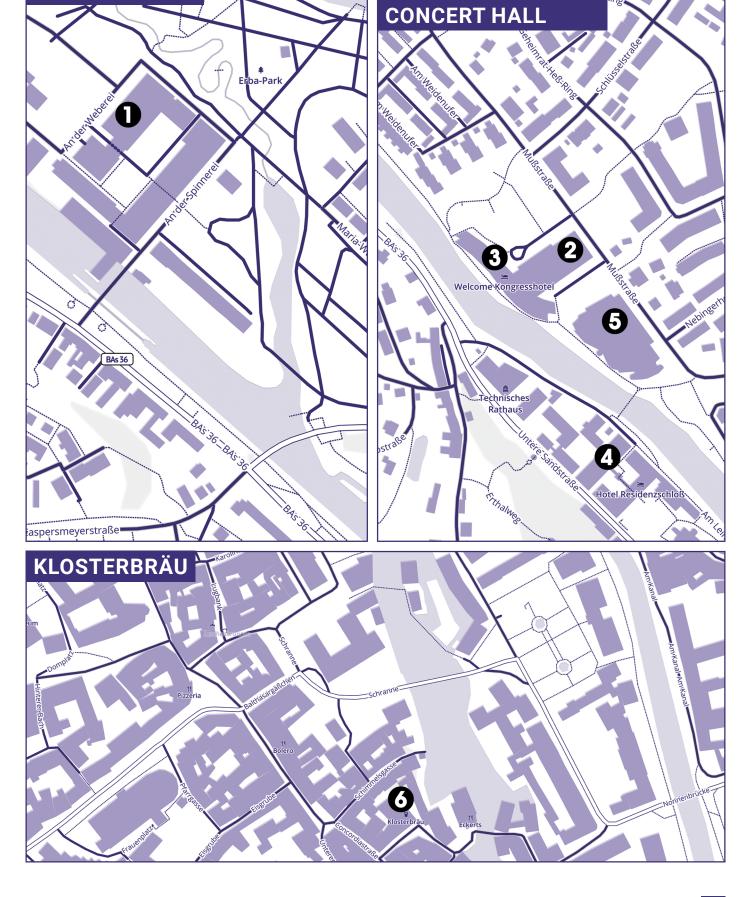
Most companies strive for superior user experience (UX) by improving the user interface of their products and services. In practice, this often means designing a more usable and beautiful user interface than what the competitors currently provide. However, a more successful strategy might be to provide experiences that are different from others; i.e. branded experiences. In this keynote, I highlight the impact of a company brand to user experience, which has been previously largely disregarded by the HCl community. Taking brand identity as the starting point for user experience design has a dramatic impact on the foundational design approach in HCl, user-centred design. I introduce experience goals that are specific for a brand rather than for a product or a user group. Inspired by service design, I call for collaboration between UX and marketing experts to deliver humane, branded experiences in all touch points. I hope this keynote induces researchers to study the relation between brand and user experience, and UX practitioners to design for distinctive experiences.

Biography

Virpi Roto, PhD, is a Research Fellow at Aalto University, School of Arts, Design and Architecture. Her mission is to make user experience work more systematically in companies, so she is best known for her work on clarifying the concept of user experience and providing the means to evaluate experiences. At the Department of Design of Aalto University, her research focuses on designing for experiences. She has always worked in between the industry and academia, first at Nokia Research Center and then on industry-driven research projects. Thus, her focus has been on company needs as well as research-based practical tools. Due to her role in bridging research and practice, she maintains allaboutux. org site and organises discursive sessions at top HCI conferences in order to disseminate UX knowledge. She has acted as the UX community chair at CHI'13, chair of SIGCHI Finland, and as the Industrial programme chair in INTERACT'11 and MobileHCI conferences. She has co-authored some of the most cited scientific UX publications and given keynote talks in various events. See allaboutux.org/virpi for more information.



WELCOME VENUES &

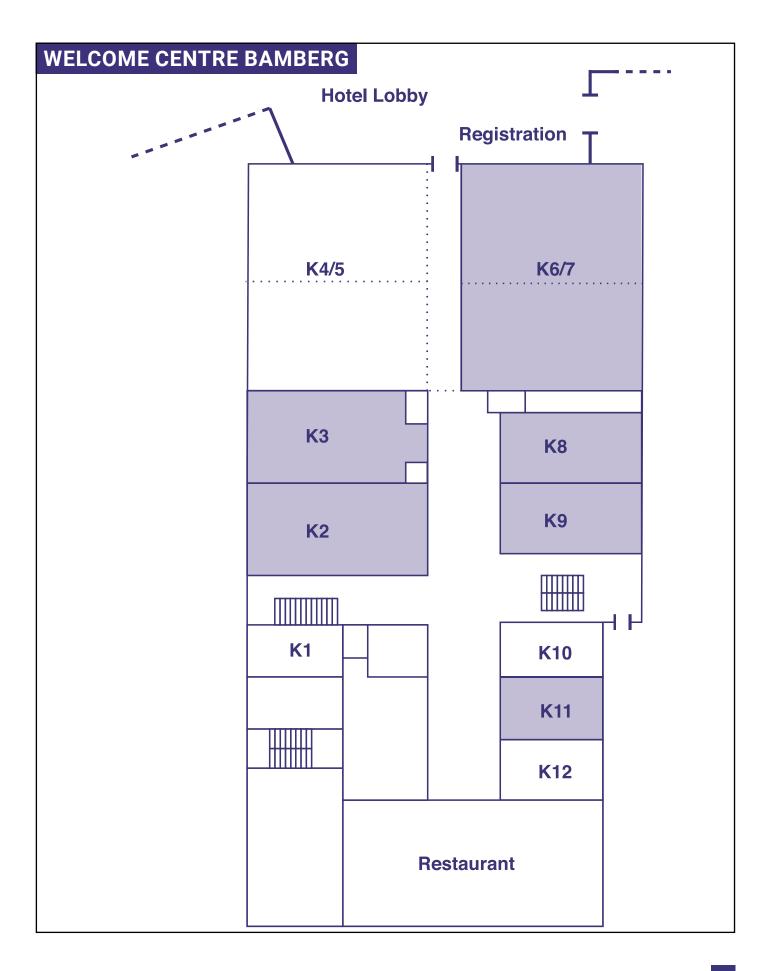


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IFIP TC13

Established in 1989, the International Federation for Information Processing Technical Committee on Human–Computer Interaction (IFIP TC13) is an international committee of 37 member national societies and 9 Working Groups, representing specialists in human factors, ergonomics, cognitive science, computer science, design and related disciplines. INTERACT is its flagship conference, staged biennially in different countries in the world. From 2017 the conference series will develop to become an annual conference.

IFIP TC13 aims to develop the science and technology of human–computer interaction (HCI) by encouraging empirical research, promoting the use of knowledge and methods from the human sciences in design and evaluation of computer systems; promoting better understanding of the relation between formal design methods and system usability and acceptability; developing guidelines, models and methods by which designers may provide better human-oriented computer systems; and, cooperating with other groups, inside and outside IFIP, to promote user-orientation and humanization in system design. Thus, TC13 seeks to improve interactions between people and computers, encourage the growth of HCI research and disseminate these benefits worldwide.

The main orientation is toward users, especially the non-computer professional users, and how to improve human-computer relations. Areas of study include: the problems people have with computers; the impact on people in individual and organizational contexts; the determinants of utility, usability and acceptability; the appropriate allocation of tasks between computers and users; modelling the user to aid better system design; and harmonizing the computer to user characteristics and needs.

While the scope is thus set wide, with a tendency toward general principles rather than particular systems, it is recognized that progress will only be achieved through both general studies to advance theoretical understanding and specific studies on practical issues (e.g., interface design standards, software system consistency, documentation, appropriateness of alternative communication media, human factors guidelines for dialogue design, the problems of integrating multimedia systems to match system needs and organizational practices, etc.).

In 1999, TC13 initiated a special IFIP Award, the Brian Shackel Award, for the most outstanding contribution in the form of a refereed paper submitted to and delivered at each INTERACT. The award draws attention to the need for a comprehensive human-centered approach in the design

and use of information technology in which the human and social implications have been taken into account. 2007 IFIP TC 13 also launched an Accessibility award to recognize an outstanding contribution with international impact in the field of accessibility for disabled users in human-computer interaction. 2013 IFIP TC 13 launched the Interaction Design for International Development (IDID) Award recognizes the most outstanding contribution to the application of interactive systems for social and economic development of people in developing countries. Since the process to decide the award takes place after papers are submitted for publication, the awards are not identified in the proceedings.

IFIP TC 13 also recognizes pioneers in the area of Human-Computer Interaction. An IFIP TC 13 Pioneer is one who, through active participation in IFIP Technical Committees or related IFIP groups, has made outstanding contributions to the educational, theoretical, technical, commercial or professional aspects of analysis, design, construction, evaluation and use of interactive systems. IFIP TC 13 pioneers are appointed annually and awards are handed over at the INTERACT conference.

IFIP TC13 stimulates working events and activities through its Working Groups (WGs). WGs consist of HCI experts from many countries, who seek to expand knowledge and find solutions to HCI issues and concerns within their domains, as outlined below.

WG13.1 (Education in HCI and HCI Curricula) aims to improve HCI education at all levels of higher education, coordinate and unite efforts to develop HCI curricula and promote HCI teaching.

WG13.2 (Methodology for User-Centered System Design) aims to foster research, dissemination of information and good practice in the methodical application of HCI to software engineering.

WG13.3 (HCI and Disability) aims to make HCI designers aware of the needs of people with disabilities and encourage development of information systems and tools permitting adaptation of interfaces to specific users.

WG13.4 (also WG2.7) (User Interface Engineering) investigates the nature, concepts and construction of user interfaces for software systems, using a framework for reasoning about interactive systems and an engineering model for developing user interfaces.

WG 13.5 (Resilience, Reliability, Safety and Human Error in System Development) seeks a framework for studying human factors relating to systems failure, develops leading edge techniques in hazard analysis and safety engineering of computer-based systems, and guides international accreditation activities for safety-critical systems.

IFIP TC13

WG13.6 (Human-Work Interaction Design) aims at establishing relationships between extensive empirical work-domain studies and HCI design. It will promote the use of knowledge, concepts, methods and techniques that enable user studies to procure a better apprehension of the complex interplay between individual, social and organizational contexts and thereby a better understanding of how and why people work in the ways that they do.

WG13.7 (Human-Computer Interaction and Visualization) aims to establish a study and research program that will combine both scientific work and practical applications in the fields of Human-Computer Interaction and Visualization. It will integrate several additional aspects of further research areas, such as scientific visualization, data mining, information design, computer graphics, cognition sciences, perception theory, or psychology, into this approach.

WG13.8 (Interaction Design and International Development) are currently working to reformulate their aims and scope.

WG13.9 (Interaction Design and Children) aims to support practitioners, regulators and researchers to develop the study of interaction design and children across international contexts.

New Working Groups are formed as areas of significance to HCl arise. Further information is available at the IFIP TC13 website: http://ifip-tc13.org/

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WG 13.8 (Interaction Design and International Development)

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WG 13.9 (Interaction Design and Children)

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